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THE SOCIOLOGICAL REVIEW

JOURNAL OF THE SOCIOLOGICAL SOCIETY

Joint Editors { VICTOR BRANFORD
ALEXANDER FARQUHARSON
Assistant Editor: M. BORGEAUD

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THE SOCIOLOGICAL SOCIETY

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The Sociological Society was founded in 1904, with the object of promoting study and research in sociology, and for this purpose it seeks to co-operate with specialists and workers in all branches of the social sciences, and endeavours to afford a common ground on which they can meet and discuss the various aspects of social phenomena. The Society organises lectures, meetings and research groups with a view to carrying out this object.

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THE SOCIOLOGICAL REVIEW

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THE ANNÉE SOCIOLOGIQUE.

THE ANNÉE SOCIOLOGIQUE, after a temporary eclipse during and after the war, is about to reappear. Few will be inclined to deny that this announcement is the most important event of the sociological world since the war. Never was more needed that clear, objective, detached survey of current sociological literature to which the old ANNÉE, started by Durkheim in 1896, accustomed us, and since the new series will be directed by the very group that grew up around Durkheim, there is every reason to suppose that all the old qualities of comprehensiveness, objectivity and clarity will reappear in the renewed ANNÉE.

The repercussion of this forthcoming event may be widespread. It has a bearing for instance upon the League of Nations. The League's Committee for promoting Intellectual Co-operation amongst the nations has put Bibliography in the forefront of its activities. But its bibliographical interests have been defective on the side of social science. The Committee includes no representative of the social sciences; and yet it might be argued that nothing was more urgent in the cause of intellectual co-operation among the nations. The recently announced resignation of Monsieur Bergson from the Committee (unfortunately from ill-health) creates a vacancy, which should assuredly be filled by a representative of the social sciences. And what more suitable nominee could be thought of than Durkheim's successor in the organising and editing of the new ANNÉE? We venture to hope the name of Monsieur Mauss will be put forward.

WE make the announcement below based on a statement that reaches us from the Editor-in-Chief just as we go to press with this number of the REVIEW. English readers can subscribe to the new series through the SOCIOLOGICAL REVIEW, which will act as agent for the French publishers (Alcan). Those who wish for further information should communicate with the Manager of the SOCIOLOGICAL REVIEW at Leplay House, 65 Belgrave Road, S.W. 1.

"THE new series of the ANNÉE SOCIOLOGIQUE is about to appear. The first fasciculus of the new ANNÉE will contain two original memoirs. One describes the unpublished work of Durkheim and his collaborators.

It gives an idea of what French Sociology would have produced if its organiser were not dead and if some of his youngest and most distinguished workers had not been killed at the front or died during the war. This account of work undertaken is our homage to their memory."

"THE second original memoir is the work of M. Mauss, and is entitled ESSAY ON THE FORMS OF EXCHANGE AMONG SOCIETIES OF ARCHAIC TYPE. It consists in the first place of a review of the judicial forms of transmission and consumption of goods in parts of Polynesia and Melanesia; and secondly, it submits a comparative view of the facts thus elicited with the rites and laws of prehistoric and early historic Indo-Europeans; and thirdly, a general theory of these facts with conclusions of sociology, moral, economic, political and general."

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"THE three remaining fasciculi will appear in quick succession between now and the end of the year."

"THE scheme of bibliographical analysis will follow that of the last ANNÉE, with five Sections, *i.e.*, General Sociology (method, theory, civilisations, &c.); Religious Sociology; Sociology of Law, Morals and Politics; Economic Sociology; and Social Morphology, linguistic, æsthetic and technological."

"THE Index and abundant tables enable one to use the ANNÉE easily. This volume will contain a summary of more than 400 volumes, and 300 articles, extracts, &c., besides numerous bibliographical references."

"THE price is fixed provisionally for French subscribers at 45 francs, and for foreign subscribers at 55 francs."

LIVING RELIGIONS AND THEIR LIFE-PURPOSE.

I.

EDITORIAL NOTE.

RELIGION! What is it, and whence comes it? How has it served, and how continues to serve, in the purification and enhancement of life, racially and individually? How far, and under what conditions, has it been the means of arrest and perversion? What are the elemental types of religion? And what the evolved forms? What do we know of their origin and development in the past? and of their current manifestations. What can be foreseen of their future part in the improvement of peoples and the bettering of environments?

THESE are long-standing enigmas. One might have expected fresh light on them from the Conference of Living Religions organised last year jointly by the School of Oriental Studies and the Sociological Society. In the hope of presenting our readers with a clear view of the upshot, and from complementary standpoints, we submitted the published Proceedings * to two representative thinkers. Their reviews are printed below. These are followed by a restatement of the sociological position as put forward at the Conference. And, finally, by way of Appendix, is added a brief study of some recent books which, as we venture to think, well illustrate, by their collective contents, the essentials of the religious process.

II.

PROGRESS IN RELIGION: by Professor Julian Huxley.

THE Conference on Some Living Religions within the Empire, held in London in 1924, marked an important step in religious history. The contact of religions in early times (and still too often to-day) has involved only strife. In the latter half of last century the intellectual interests of Western civilisation brought to the birth the Science of Comparative Religion. Meanwhile the rising tide of universalist feeling and internationalism was active; and in 1891 the first real conference of religions in the world's history, under the title of "The World's Parliament of Religions," was held at the Chicago Exhibition in 1893. From this, in which traces of denominational propaganda still lingered, sprang the "International Congresses of the History of Religions." These were devoted strictly to the scientific aspects of the problem. The present Congress had slightly other aims. It is a symptom of the welcome increase of the attitude which we may

*RELIGIONS OF THE EMPIRE: A CONFERENCE ON SOME LIVING RELIGIONS WITHIN THE EMPIRE: edited by W. Loftus Hare. (London: Duckworth & Co. pp. 519. 16s.)

call scientific humanism that instead of restricting itself deliberately and solely to the intellectual side of the matter (and still less reverting to any merely theological and propagandist point of view), it had a practical as well as an intellectual goal. It aimed essentially at obtaining a better understanding for each and every religion of the Empire by adherents of other religions, and thus at reversing the old state of conflict between different religions and replacing it by co-operation, in which each religion might learn from others, and through which a process of assimilation might presumably be started, leading on in the long run, we may hope, to the genesis of a real world-religion for civilisation. To this end, the papers dealing with the various religions were not read by outsiders, after studying them with deliberate detachment, but each (so far as possible) by an adherent of the particular religion, thus ensuring that the story should be told by one to whose life and thought the religion had meant something, and so necessarily bringing out more of its life and significance.

ONLY by some such method of approach is it possible to go beyond the purely intellectual knowledge gained by the scientific study of comparative religion, and to make an application of that knowledge to practical problems ; and it is for this reason that the present Congress marks a stage in religious history.

THE value of this particular method is well seen in the articles on Islam, which give, to those as ignorant as myself of the details of the subject, a quite new view of many sides of this religion.

AGAIN, the discussion, in " Hinduism and its Philosophy " of the way—characteristically different from that employed by the Western world—in which a form of philosophic monotheism was arrived at from or in spite of a more primitive, less philosophical polytheism, is of great interest.

ONCE more, in the account of the Ahmadiyya movement, the Brâhma Samâj and Arya Samâj, and the Bahâi religion, we are given remarkably interesting accounts of the fortunes and tenets of recently founded religions. In them we see again the revolt of the founder of a new religion against the prevailing worldliness or formalism of the religion in which he has been brought up, the hostility with which the most spiritual of teachings and most moral of lives is usually received if they involve a departure from orthodoxy, the rapid growth of dogma and organisation and the frequent schisms and conflicts which generally mark the period immediately after the founder's death. In them we see repeated (though in necessarily feebler fashion, since the conditions are different) many of the experiences of the early days of the great historical religions—Christianity, Buddhism, and Islam.

ONE of Comte's favourite generalisations was his division of man's intellectual progress into three stages—the religious, the philosophical,

and the scientific. Like many others of his generalisations, it will not stand in detail. But he was a great man, and in it for the first time shadowed forth a real evolutionary sociology, as opposed to the static views of most earlier thinkers, or the fantastic speculations of a Rousseau or a Godwin.

To read through this book is to be made to realise vividly what was at the back of Comte's mind—how religion inevitably occupies a different extent and plays a role of different importance in different stages of evolving civilisation.

It is at the beginning that religion is most extensive, and, in everyday life, most powerful. For the sanctions of morals or reason we find substituted a code of ritual, doubtless moral and rational up to a point, but based on non-moral and non-rational religions, ideas and sanctions. As Mr. Baker here says of the East African negroes, " moral through fear when control led by tribal custom and use, they are prone to be anything but moral when brought under the comparatively mild jurisdiction of Western civilisation " (p. 354).

It is also true that at a certain further stage of development, religion allies itself with philosophy, metaphysical and moral. As a result religious influence on life ceases to be so cast-iron in detail and so immediate, but nonetheless rises to a greater height and exerts a more important power in the world. Christianity, Mohammedanism, Buddhism, have all at the height of their power passed through this stage ; and in a great many of the religions described in this book we see this alliance, effected in different ways, but apparently inevitable at a certain level.

Finally, comes science. We do not know if Comte was right in generalising about this stage, for so far the scientific spirit has only appeared once in the world's history for a period long enough for it to exert important influence. But it is undoubtedly true that when it comes, it finds itself in conflict with some of the essentials, and much of the attitude, of the earlier stages of religion.

It is perhaps a pity that no articles on Christianity and the trend of its present change were included in the volume before us ; for nowhere in the book do we find any inkling that such changes are going on, that there was or is a conflict between science and religion or an influence of one upon the other—and yet this is the most prominent feature of the most highly-developed religions of our time.

To read the accounts of Hinduism, of Islam, of Jainism, of Zoroastrianism, and numerous others is to feel plunged into an atmosphere which somehow resembles that of the middle ages in Europe : and the resemblance comes from the fact that, in all, the philosophico-religious attitude of mind is dominant.

How science will in the long run affect this attitude, although it is religious evolution, remains to be seen. Some say that it will destroy religion: but that seems to be an extreme and an intellectualist view. It is much more probable that science, beginning by regarding religion for what it is—a normal human function—instead of what it is not—something supernormal, thrust on us from outside or from above, like a supernatural pill—will end by reconciling, not science and religion, but that much more serious breach now only too apparent, between religion and everyday life, between religion and the general thought of our civilisation.

* * * * *

AMONG the individual articles, that on Taoism by Mr. Hsu Ti Shan, that on Sikh Religion by Sardar Kahan Singh, and that on the Basic Principles of Islam by Al Haj the Khwaja Kamal-ud-Din (Imam of the Mosque at Woking), are perhaps especially interesting. A word of warning must be given about Mr. Thoka's picture of "Bantu Religious Ideas"—a picture which seems to the reviewer essentially false owing to Mr. Thoka having read his own religious ideas into the much more primitive ideas of the Bantu.

A SECOND section of the book is devoted to "The Psychology and Sociology of Religion." It cannot honestly be said that this is very satisfactory. Professor Fleure's Holy Ways and Holy Places is an interesting essay in geography; Professor Arthur Thomson gives us some sane reflections arising out of biology, though we fail to see why he limits his field as he does, why (p. 415), if cruelty is "an irrelevant ethical concept," then kindness is not also, or how can he say that "there is nothing ugly in free-living organisms" (and also what right he has to turn the discussion by the introduction of the word *free-living*); and, as a fellow-biologist, I must protest against the unjustified anthropomorphism of his picture of evolutionary progress on p. 416!

PROFESSOR GEDDES attempts to deal with everything under the sun in twenty pages. Mr. Branford appears (though it is difficult to be sure!) to base his not very satisfying thesis on a form of Lamarckism —which if so is biologically not justified.

BUT several of the articles cannot be said to contribute anything either to psychology or sociology—which are, or should be, sciences. It would have been better either to have omitted this section altogether, or else to have both amplified and improved it.

ON the whole, however, the book is a worthy and useful contribution to a great subject. It seems clear that what may be called religious needs and religious emotions are normal, a necessary phenomena of human biology. If so, they can only partially be satisfied in the average man by diversion into other channels, such as poetry, art or

music, or patriotism, or good works, and one of the fundamental necessities for our emergence from our present transitional civilisation into a relatively stable phase once more will be the evolution of a religion, or better a basis of religious belief, which can be generally accepted. It seems clear that this will be accomplished by discarding the supernaturalist basis and adopting the naturalistic view of religion which springs from the attitude of scientific humanism I mentioned above.

LET me repeat that, apart from all its interesting detail, this book is important as taking us a step onwards in this desired direction.

J. S. HUXLEY.

III.

THE WAY TO TRUTH AND UNITY: by Alban G. Widgery, Lecturer on Philosophy of Religion in the University of Cambridge; sometime Professor of Comparative Religion, Baroda, India.

"IT is an infinite advantage in every controversy to defend the negative." So wrote David Hume in his essay on the immortality of the soul. Yet certainly it is not merely the seduction of the facile that tempts one to cruel satire and to an avowal of rejection of all religion on a first reading of the volume of papers and notes published in connection with the Conference on Some Living Religions within the Empire, held in September and October, 1924, at the Imperial Institute, London. For it would indeed be easy—yes, and distinctly worth while—to show the serious limitations of the conceptions in the papers; the incongruities of their contentions; the diversity of their methods of approach; the deficiencies of their appreciations of the questions appropriate for consideration on such an occasion; the incompatibility of their different emphases; the conflicting estimates as to what is most fundamental in life and religion; the contradictions in their views as to how man has come or may come to truth in religion. It is far more difficult to find here any empirical establishment of what essentially constitutes religion; to find any direct and indubitable indication of that at which men aim in religion; it is far more difficult to see here any serious attempts to state how religions might reasonably be brought together in relation with the main objects of human life. Considering what is "perhaps the central defect of this age," Mr. Victor Branford says, "confusion and disorder grow rampant on all sides." Is it surprising, then, that this volume made up of contributions treating of ideas, emotions, and practices of peoples of widely separated countries and of different levels of general culture should impress one predominantly with the "confusion and disorder" in the religions of mankind? Is it surprising that with the claim to truth and the call to unity on almost every tongue we are at first more than

ever perplexed as to what really is the truth and how unity is ever to be brought about?

THOSE who think of the richness of the historical life, of the variety of practice and of intellectual expression among the adherents of their own religion will, with the serious student of religions, find some measure of relief in the recognition that these accounts of religions are distinctly particular representations by individual adherents. Acknowledging their interest, they will guard against according them too high a value: in charity at least they will hope that the religions are better than they seem. There were, of course, good reasons for giving each writer of a paper freedom to develop his subject on his own lines, yet better results might have accrued had the organisers insisted on a more or less common plan. The desire to include some contributions from certain interested and interesting persons appears to have determined the papers in the section entitled PSYCHOLOGY AND SOCIOLOGY OF RELIGIONS. And they impress one painfully with the unsystematic and elementary state of such studies. Yet, who can doubt that the Conference was really valuable in the promotion of mutual respect and goodwill among the adherents of the different faiths who attended? And in the very omissions there are happy signs that the religions are advancing in the minds of some of their leading thinkers at least by the process of expurgation of unworthy elements. Nevertheless, I fear that the general impression of the preceding remarks is a melancholy one. In spite thereof, let it be insisted that the participants and the promoters of this Conference have performed what is perhaps the most valuable service which could at present be performed for religion: they have manifested, and in this volume published the evidence that all may see, the lamentable condition of mankind with regard to the truth and the unity of religion. In no other branch of human thought, in no other realm of human activity, except those of politics, is "confusion and disorder" so rampant. Mankind needs to be made explicitly conscious of this condition, and a debt of gratitude is due to those who have so vividly and unmistakably drawn attention to it.

THE "infinite advantage" of defending the negative must now be accorded to others, and a more constructive attempt made to find the root cause of the present confusion and a possible step on the way to truth and unity. The solution is not likely to be found in the proposal of the promulgation and universal adoption of any one existing religion. How could we decide which one it should be? And what diversities exist even within one religion! We are more likely to get some indication of the way of advance by observing how humanity has advanced and still advances rapidly in other spheres of thought and action. A conference of natural scientists or of industrialists gathered from all parts of the world would reveal many

differences of opinion and of practice, but it would also reveal a consistency of principle and a congruity of practice as great as the confusion in religions. How has this unity of methods in industry, how have these commonly accepted truths in science, been attained? History shows that real orderly progress began to be made when men asserted a freedom of thought and of action, turned from mere custom and from the reiteration of opinions found in books and popular tradition and began to study Nature itself. In the realm of religion a revolution is called for analogous to that which took place in natural science following the work of Bacon. This means a study of the facts themselves, a clear conception of the terms used, a careful formulation of the questions involved. This means that the literary sources, whatever the character of the claims that have been made and are made on their behalf, must take a secondary and subordinate place. And that, in effect, is just this: an abandonment of dogmatism for freedom of the spirit in continued enquiry and progressive attainment. For it cannot be correctly denied that the "confusion and disorder" in religions is due primarily to dogmatism based upon the authority of certain literary records. In the historical religions, and especially in their sacred scriptures, which they regard as paramount, we have particular formulations of what to persons of past times and different places appeared of religious significance. The fixation of their statements in the form of unchangeable dogmas is no more justifiable than the fixation of particular views of Nature and human society would be. Rooted thus in dogmatism as to the literary sources, the greatest obstacle to the attainment of truth and unity of religion in the present as in the past is the unjustified assumption of absoluteness and finality of this religion and that: and this assumption has largely stultified progress. This is not to say that there is nothing final in any religion: possibly there are elements which are final in every religion. Nevertheless, at the present stage of evolution the presumption is reasonable that no religion is entirely absolute and final: and with the indefiniteness of every religion that presumption seems justified. Any element which has the character of finality will be able to establish itself in the course of reasoned enquiry.

THE defender of the negative will surely interject here the question: Is there really anything for enquiry beyond that with which modern natural science is already concerned? It would be paradoxical to expect natural science and its methods to establish the existence of anything outside its own region of enquiry. The study of Natural Science does not lead to Nature's God, which, as Professor J. A. Thomson says in his paper on THE NATURALIST'S APPROACH TO RELIGION, is a conclusion "too large for the premises." Nevertheless the admission of a realm of facts with which religion is specifically concerned involves no violation of the principle of consistency upon

which natural science works. Rather there are good reasons for believing that the realm of Nature is consistent with such a realm of religion. Science gives us the impression of the orderliness of Nature. Every year its unity becomes clearer. "The world we live in is not a phantasmagoria, but a cosmos. We cannot think of it evolving from a primitive chaos and there is no warrant for supposing there ever was such a state of affairs." "As age has succeeded age there has been an emergence of finer, more masterful, more emancipated forms of life. The biggest fact of all is the growing dominance of the mental aspect." Now, it is just in the venture of religion by a method which is mystical that man experiences a realm of facts beyond the particular methods of natural science. The existence of the religions throughout human history, and the evidence of the religions to-day even as found in the report of this Conference, give ground for reasonable acceptance of this as a fact.

If religion is regarded as a form of apprehension and an attitude different from that of natural science, the professions of religious beliefs, however obsolete and dogmatic in form, cannot be regarded as quite baseless and entirely worthless. They suggest grounds in the experience of more or less definite facts. An unfettered modern effort for truth in religion would insist primarily on free enquiry into the facts of religion, making what use it could of the traditions of the past. The papers in the specifically religious section of this Conference are quite clearly in the main very little else than statements of dogmatic and traditional views. There is in many—rather all—evidence of personal conviction that the expressions they use imply some sort of realities of experience. It is, therefore, not unreasonable to ask if these papers together give light on the nature and implications of religion. It is agreed that the truth of a belief is not established by showing that it is or has been generally held. Nevertheless, in the absence of definite refutation from science and philosophy, the existence and persistence of certain general features of religious beliefs and practices form a not irrational prejudice in their favour.

In one way or another each and all of the religions imply the inadequacy and incompleteness of human life as lived independently of religion. They point beyond in two ways. They affirm the reality of existence transcending Nature as known to the senses, and of man as aware of his own immediate consciousness. However this is conceived, whether as the cosmic whole or as a supreme spirit, It transcends Nature and man, and in religion man is concerned with his relations to It. Even for Jainism the highest self of every man is something distinguishable from Nature and from his actual conscious existence here and now. The historic religions also imply a beyond in another manner: that with reference to the duration of human existence. Though the nature of the continuance is variously conceived, as perpetuation in a

pantheistic whole or as a member of a realm of spiritual beings, the implication of continuance is there. Throughout the specifically religious papers is the general impression that the religious mind has never looked upon death as a simple disintegration of the entire human being. The historic religions seem therefore to imply at least this: the participation of man in a wider whole than the immediately apparent world of physical Nature and human society, and is more enduring than the terrestial life of three score years and ten, a little more or a little less. Therewith arises the most fundamental of all questions with which we are here concerned: Is the outlook of man, is human endeavour to be dominated by the affairs of earthly life, his relations with Nature and Society, or somehow oriented also and mainly with reference to this wider whole? Surely it is not begging the question from the point of view of the historic religions to say that they, especially in their founders and saints, have pointed definitely to the latter. From their standpoint a naturalistic sociology of religion must be for ever inadequate. Here we have not simply a development of religion as an expression of a naturalistic social organisation, but a moulding of Society from influences and ideals due to man's relation to this wider whole.

THERE is abundant evidence in the papers of the Conference as to the concern of the religions with the conduct of life on earth. Yet though the ethical aspects of the religions have a large measure of reference to Nature and to Society, they point to the recognition of intrinsic values in which the natural functions of the individual and of Society find their explanation and their rational end, without which they would be almost if not entirely meaningless. The actual religions are, however, dogmatic on the ethical as on the theological side: they have fixed as final the expressions of past apprehensions of intrinsic values and of past ideas as to their relation to human development. Thus mankind has been and is hindered by the imperfections both of the apprehension and of the expression of intrinsic values and their connection with human life. Here, again, in order to set ourselves on the way to a universal knowledge of truths and to a moral unity of mankind, the primary need is the abandonment of dogmatism, a subordination of literary records to a searching and progressive enquiry into the nature of intrinsic moral values themselves, into the best ways in which, in this terrestial existence, the life of the individual and of Society may be organised for their realisation.

IT is not for us here to illustrate the "confusion and disorder" rampant in the religions of the world: they may and should be sufficiently studied in the published proceedings of the Conference, a volume which will take its place in the literature of religions as showing something of the relative attitudes of adherents of different faiths in 1924. What makes this confusion so lamentable; what makes the call for a radical revolution of attitude from dogmatism to free enquiry on the

part of the members of all religions so urgent, is the fundamental nature of the issue, which is no other than that of the central orientation of human life. But " Grieve not ; thou art born to God's estate, O son of Pandu."

IV.

A HALL OF VISION.

THE Sociological Society being responsible for the papers contributed to the scientific section of these Proceedings ; and the scope and aim of these papers not having been understood as a unity (as the press reviews plainly disclose), it may be well here to state, more fully than has hitherto been done, the basis of their correlation. Great pains were taken to organise the scientific section on a methodic plan in the hope of making, by the collective result, a permanent contribution to the sociology of religion. The outlook of these several papers, though ranging within the field of Comparative Religion, concerned itself rather with ulterior questions than with forms of worship. What are the deep and perennial sources of the religious life ? What, in its essence, is the religious process ? And how does it work amongst primitive peoples and in civilised communities ? In what characteristic ways does the religious life interplay, for better and worse, with other aspects (economic and political, moral, intellectual and æsthetic) of human activity ? How far can and does the religious way integrate all other ways to life-fulfilment ? What do we know of the effects of religion in harmonising, and in disharmonising, personality and community ? What are the main types of religion and whither run their tendencies throughout pre-history and history ? What can be said as to the rank, scope and purpose of religion in the evolution of humanity ?

THESE are some of the larger enigmas that lie at the root of Comparative Religion. And remote as, at present, may be the cultivators of this growing science from satisfactory answers, yet it was this sort of question that writers of the scientific papers were asked to keep in view and ponder in the light of their specialised knowledge. Each paper approached the subject from some characteristic standpoint, but all were so chosen as collectively to make a concerted move towards synthesis. What then are these characteristic fields of modern research that bear upon religious origins and issues ? Without professing to be even approximately exhaustive, or logically systematic, and being necessarily based on the personnel available, the actual selection was as follows : (*a*) Travel ; (*b*) Geography ; (*c*) Biology ; (*d*) Economics and Anthropology ; (*e*) History ; (*f*) Psychology and Civics ; (*g*) Humanist scholarship ; (*h*) Sociology. Approaching the larger issues respectively from each of these more specialised aspects, eight writers working together more or less as a team, contributed the

papers that occupied the two days of the scientific section of the Conference.

THE underlying idea of this eight-fold grouping is that each of these several fields yields some characteristic product to the structure and enrichment of religious experience. But what is religious experience in its essentials? What, if anything, can be singled out, and held up as characteristic, from manifold approaches varying between the rationalistic and the mystic? That was the central question to be kept in view throughout our eight specialised enquiries. But always the answer was to be sought in terms of life, and its tendency to oscillate between heights of rapture and depths of despair, yet moved all the time by desire of unison. Thus the Traveller, exalted by the glories of Nature, yet also affrighted by its terrors, ever pushes on through widening explorations towards a longed-for vision of the world as a unity. In that quest he has for theoretic partner the Geographer, who, if also a student of civilisation, rejoices in the consecration of Pilgrim Ways and Holy Places, yet is saddened by spoliations which desecrate these and other Ways and Places. Passing from nature to the life of nature, we see the Biologist, kindled by the Wonders of Life and its Harmonies, yet also perturbed by its Disharmonies, and so compelled to seek for reconciliation in an evolving unity. The Economist, who is Anthropologist as well, associates with the folk in their labours and so comes to be touched by the ideals of the primitive occupations, yet also he experiences the insidious perils of their temptations; and in the nature-religions he finds the meeting ground and conflict of these twin polarising tendencies towards good and evil. The Historian, who is no mere documentarian but tells of creative communities, is cheered by their attainment in the realm of spirit, yet also depressed by their lapse and decline into animal debasements; and in the historic religions he finds the perfecting bridle and spur of the human spirit. The Psychologist thrills to the white magic of mind, yet also shudders at its black magic; and so begins to find in this terrific duality of the inner life, a clue to the masteries and the mysteries of religion. The Humanist Scholar alternating between mystic awe before the procession of Saints and Heroes, and tragic pathos provoked by recurrent multitudes of unfulfilled lives, begins to decipher the working of ennobling faiths and of arresting superstitions. Finally comes the Sociologist, timid leader of an unruly team. He, in synthetic mood, tries his prentice hand on composing into one picture the elements of religious experience brought together by his more specialised colleagues. His constructive aim is to present us with a vision of life at the full as it beckons to each oncoming generation.

TO illustrate concretely and visually these different modes of approach to religious unison, and in the hope of presenting them as a totality,

and moreover in relation to the Conference as a whole, an Exhibition was arranged in a hall adjacent to the assembly room.*

A SUMMARY account of this religious Exhibition prepared by its designer is printed in the Proceedings of the Conference. A somewhat fuller account, along with a reproduction of some representative exhibits, is printed below. It constitutes the Closing Address and General Survey of the Conference as originally prepared. Its text ran as follows :—

IT cannot be that the many who have attended our Conference, day after day, are all of them moved by fleeting impulse or heedless curiosity. Not a few, it may be assumed, are seeking a way of life for which there is no better name than religious. The way of life they would find is one that imparts an emotion of fulfilment sustained through the ups and downs of daily existence. To what extent can we reasonably hope that some at least of such seekers have been led in course of these ten days towards the path of fulfilment? That is a hard question. Let us try to frame it in more manageable form. Viewed as a whole, do the papers presented to the Conference compose into some semblance of a religious ideal for our times? And, by way of giving precision to the notion of a current religious ideal, we will conceive it as a vision of life at the full, personal and communal, approximately realisable in the here and now. That is the query which insistently arises in the general view now to be attempted.

A REASONED survey of our ten days' activity and discussion is hardly possible within the limits of a short speech. Let me choose, by way of sample, two aspects of the Conference and present them as symptomatic.

NOTE first that every reader of a paper, through all the ten days, has been, with one single and superb exception, a man. Yet we owe to womanly influence and activity no small share in the inception, preliminary organisation and actual handling of the Conference. For instance, the startling transformation of this gallery from a bare barrack of a hall into a temple-like auditorium was the collective performance of women helpers, aided, to be sure, by male hands of artistic training. The concert, which animated our opening proceedings with a quickening touch of ritual, we owe to another colleague of the gentler sex, and the musicians she gathered.

DOES not this contrast of men reading papers addressed to the mind, and women, aided by artists and musicians, doing things which appeal to the heart, represent the cleavage which cuts through contemporary life and frustrates its religious endeavour? Accept that reading of the situation, and the prime question is, How to restore vital unity to our

*In addition to this general exhibition, a more specialized one was arranged by Professor Geddes to illustrate his own paper.

* From General Survey of Conference in "Religions of Empire" p. 511

fractured society? How can we heal this devastating schism between emotional and intellectual interests? What, if anything, can we claim that the Conference has contributed towards this crucial issue? Well, recall our general scheme. The first part of the Conference was intended to be descriptive, in the main, of the oriental religions within the Empire, and, to a less extent, of its primitive or nature-religions. The second or sociological part was intended to be interpretative rather than descriptive. It was contrived in an ambitious hope of pooling the scientific resources available for religious illumination.

In order visually to illustrate the aims, scope and method of the sociological, or, as we may say, synthetic approach to religion, the exhibits that hang on the walls of the antechamber to our auditorium were assembled and arranged. Collectively these exhibits present a scheme, or rather the first draft or outline of a scheme, towards the furnishing and equipment of a Hall of Vision. Now, "vision" is a hackneyed word of many and varied meanings. Let us be precise as to the meaning here in view, and for that purpose consider where we are at this moment. We occupy a gallery in the Imperial Institute, and the Imperial Institute is really a museum. It is one amongst a whole constellation of museums. This great group of museums constitutes a considerable quarter of the City of Westminster-Kensington. Adjacent and contiguous to this museum quarter is another institutional group of a different yet related kind. Immediately to the west are an Anglican Church and a Roman Catholic Oratory, with their associated buildings. A glance into either of these sacred edifices shows manifestly a definite scheme of presenting the things that count for life-fulfilment. Each building is richly equipped with works of craftsmen, material of history and objects of art. They all gather and concentrate in an altar oriented to the world at large, and conveying a meaning for the mind and a message for the heart. Together these furnishings tell a tale of civilisation, depict it as Drama, and show it forth as a Vision of Life. There are, to be sure, those to whom these particular presentations do not appeal. But the point is that the contents and equipment of these sacred buildings do express an ordered unity of Man and Nature and the Ideal. Here, then, is a synthetic something which, in the language of religious tradition, shows forth a vision of life-fulfilment.

Pass now to the secular buildings. Penetrate two representative institutions of the museum group. Let one be of the more emotional and the other of the more intellectual type. Go first to the Victoria and Albert Museum in order to observe and discover the modern and contemporary view of art in its relation to life. On entering this vast pile of ornate architecture, you find yourself amid a bewildering array of marble halls, courts and corridors. Objects and works of art surround you on all sides. They are clearly labelled. Scan a dozen

or so of these labels chosen at random in the first hall. The intention is to discover what scheme and order of presentation (if any) animates the whole immense collection. A visit paid yesterday for this purpose yielded the following first fruits. Within a few yards of the entrance one saw the " Bronze Model of a Lion," a " Lacquer Teapot,"' " Lao-tsze riding a Bull," the " Head of a West African Negress," the " Model of a Carpet Loom," the " Sacrifice of Isaac," the " Stairway from an Old House," the " Statue of the Duke of Wellington recumbent," a " Plaster Cast of a Nude Woman," a " Silk Tablecloth," " King Edward VII. and Queen Alexandra opening Parliament." The impression is assuredly less that of unity than of confusion carried to the limit.

VISIT next, with like intention, a representative institution of the scientific world. The sumptuous building that houses the vast Natural History Museum attracts the eye. Enter its precincts. Without moving more than a few yards from its portal, observe some sample cases of exhibits. Here is a list fairly and squarely chosen from the first section in all that spreading array of courts, halls and corridors. There is a case of " Blood-sucking Flies," a " Dove-cot," a " Set of Bible Plants," a " Clothes Louse enlarged to 50 diameters," " Fossil Trunk of a Coniferous Tree," " Carrion Crows in Winter," the " Skeleton of a Bony Fish," a " Young Chimpanzee," the " Ovaries of a Mature Eel," a " Stuffed Elephant," " Wild Ducks in Sexual Plumage," and so forth and so on. It would seem that the men of science are as remote from unity as the *savants* of art. We are surely bound to assume that this confusion of science and that disarray of art do but indicate different aspects of a single disorder.

Do not our visits to representative museums of science and of art begin to make clear a defect, perhaps the central defect, of this age? We have multipled knowledge and amassed treasures of art. Yet these products of the modern mind, because they lack unity, fail to compose into anything resembling a drama of civilisation and a vision of life. The data of science speak to the intellect, and the works of art convey a message to the feelings. But what is spoken to the intellect and uttered to the emotions are alike defective in the vital stuff which inspires drama and creates vision. And what is the consequence? Confusion and disorder grow rampant on all sides, and, for lack of the needed vision of life at the full, we perish. But need we despair? Not at all. There is emerging a scientific approach to religion, which deliberately sets out to seek a remedy for this crippling defect of contemporary civilisation. And the exhibits gathered together by way of illustrating the scientific papers of our Conference signalise a type of study and scheming towards an order and a vision true to current knowledge and loyal to contemporary aspiration, yet continuous with religious tradition and harmonious

with its ideals. Our mural exhibition is, in short, a rough and ready first approximation towards the furnishing and equipment of a Hall of Modern Vision fit to stand alongside the Temples of Ancient Faith.

By way of testing the success or failure of this Exhibition let me beg your company on a brief tour of inspection round its walls. In the first section you see that marvel of condensed and shrunken landscape, which cartographers call a Relief Map of the World. You see half a dozen charts showing the starry heavens, as they change through the weeks and months. You see a picture of our planet strangely suspended in the immensities of stellar space; and another depicting the midnight sun pouring its beams upon arctic lands at midsummer. Following these graphic and pictorial presentations of the wonders and mysteries of our world are four symbolic drawings indicating the procession of the seasons through our solar year. Are not all these maps and charts, pictures and drawings, charged with an emotion intense and arousing? Yet they are also scientific documents, accurate in fact and where necessary drawn to scale. They exhibit our world-without in its largest being and becoming. They are also evocative symbols. They stir the imagination. At their call our world-within is kindled with the sense of a spectacular and mysterious Cosmodrama, and in no vague way but luminous with clear ideas and vivid imagery. To express something of the marvels in colour and form which flash on the screen of memory, at the mental picture thus invoked of man's home in the universe, there is exhibited an artist's series of representations of the Seasonal Pageant as manifested on that surviving morsel of wild nature we know as the New Forest. This whole section of the Exhibition indicates and outlines the approach to religious origins and issues from Travel and Geography. For its characteristic diagram we may take that nature-symbol we use so freely at Leplay House for sociological evocation. It is a presentation of daily sun-burst on the typical "valley-section" running all the way from snowy mountain peak to rippling ocean-wave. (Fig. I.).

Fig. I. Sun-burst on the "Valley-section."

Next follows a corresponding endeavour to indicate the sources of religious origins and issues that lie dormant or actual in Biology, Economics and Anthropology. Here are presented our world-without and world-within, not only as Cosmodrama, but first as a life-play or

Biodrama, with objective and subjective aspects ; and next as a Labour-play or Technodrama ; and in the third place as a communal drama of Place, Work, Folk. To symbolise the pageant of life unfolding on our planet, as the evolutionist sees it, there is a cartoon by P. A. Mairet. It shows our many-breasted Life-Mother enthroned on the Pyramid of Substance, and supported on one side by the nature god, Pan, with his pipes, half recumbent, and on the other by the author of that epochal book THE ORIGIN OF SPECIES. For may we not regard as a reincarnation of Pan, our Darwin contemplating the ecstacy of Life revealed in mystic partnership of Butterfly and Flower ! (Fig. II.) But

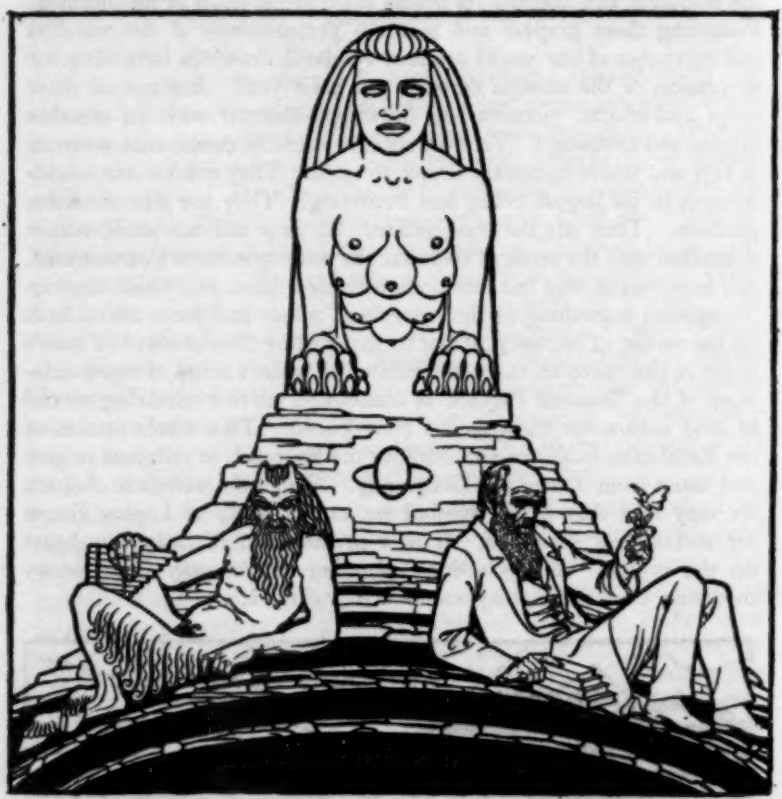

Fig. II. THE LIFE-MOTHER WITH PAN, ANCIENT AND MODERN.

religion is more concerned with the Psyche of Man than with her of Nature. So let us try to depict the drama of human development as arising out of, but ever in association with, the mystery of life-in-evolution. To that end we place under the large cartoon by Mr. Mairet, two smaller ones. Of these the first recalls the Sphinx-riddle which each

Fig. III. The Sphinx-riddle.

generation of man has to face afresh (Fig. III.); the other shows Forthfaring Youth at the prow of humanity's ship ever adventuring anew on the ocean of life in quest of fulfilment (Fig. IV.). In these cartoons we

Fig. IV. Forthfaring Youth.

see the life-sciences, organic, psychic and social, rising together in a common approach towards religion.

In the approach from Anthropology, a science which we define as a study of Folk, Work, Place, in their unity and rhythm, note first Mr. Heywood Sumner's presentation of primitive man's earthworks on Cranborne Chase. Here is an Ordnance Map made to live and throb by the magic touch of an artist who is also an anthropologist. He depicts those early ancestors, who conquered the world for our later civilisation, as no Calibans, but rather as Prosperos in the making. Vividly his pencil shows them as finely formed creatures watching the heavens, fabricating tools, constructing earth-works, taming the ox, domesticating the sheep, and learning to till the fields. That picture of early society the newer anthropologist places as the central piece in a prehistoric Technodrama, which continues through recorded ages and expands into the complex arts and sciences of to-day. It tells the epic tale of Man's tools and husbandry. To recall the basis of Nature on which we play our Technodrama, and to emphasise its significance, so easily overlooked by townsmen in our industrial hives, there is a special exhibit. It shows, in a series of photographs, that mystic sequence of diurnal events we couple as dawn and sunrise, calm and storm on sea and land, fleeting cloud and restful vault of heaven, glory of sunset and mystery of the gloaming, darkness of night and light of morning. Against this stirring background of the days, their works and seasons, we see, conspicuous in the series of nature-occupations, shepherd on the pastures, peasant on ploughland, and fisherman at sea, all of them running the risks and earning the rewards of their respective occupations, as another series of photographs shows. And the point is that in each of these situations, the mind of the labourer is, by the interplay of facts in his milieu, charged with emotions, ideas, imagery, which relate his toil to ultimate things, and so have for him religious value. These religious values are facts of folk-life and labour, perhaps the central facts; and if, therefore, the Economist ignores them, he does so at his peril. He mistakes the means of life for its end. This approach to religion from Economics and Anthropology is illustratively concentrated in two pictures. One of them shows the supreme Fisher of Men, in a historic scene on the lake of Galilee; the other shows a homing shepherd folding his flock in the tranquil protection of a farm-steading. Women and children come to give aid in this penning of his sheep at night-fall by the aged shepherd, so that he too in his way is a pastor of men. He is the central and creative figure in a diagrammatic endeavour to indicate the essentials of religion as seen in the approach from Economics and Anthropology. (Fig. V.)

The next set of Exhibits runs in three series of views on a long stretch of wall. First is a score or so of lithographs by Joseph Pennell. They

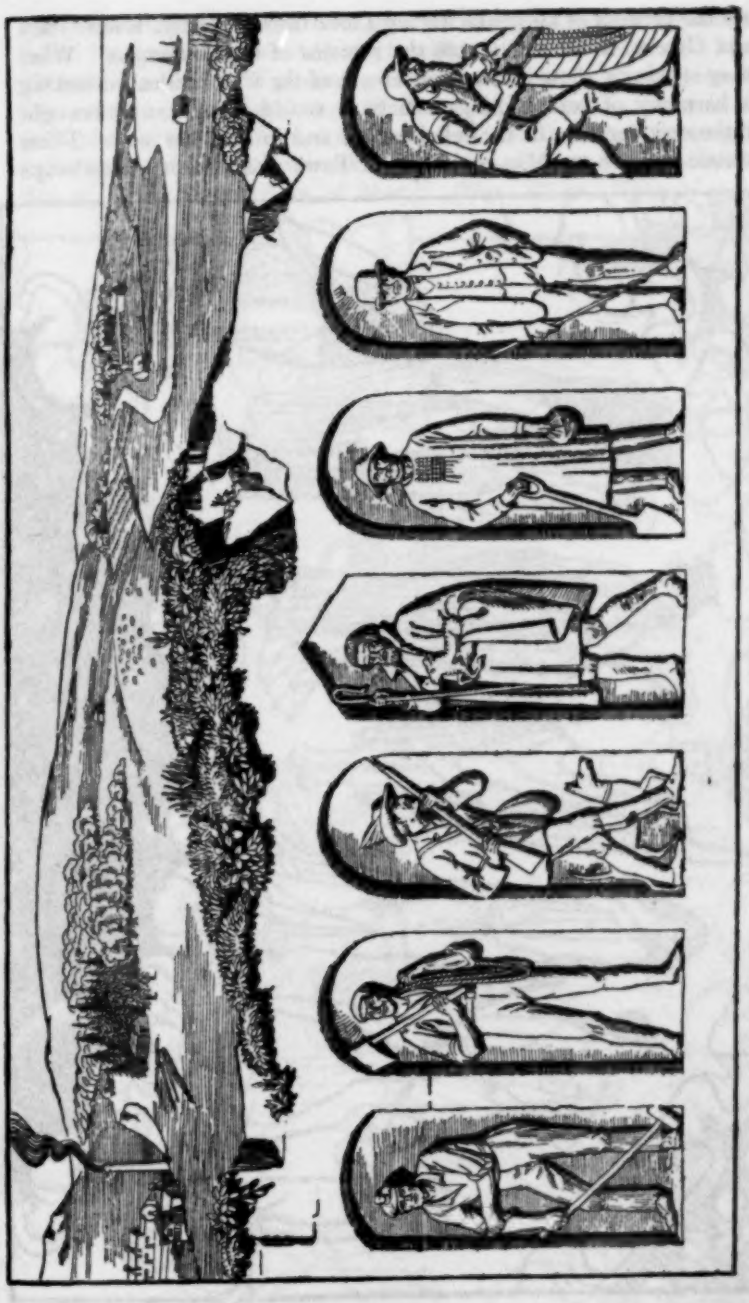

Fig. V. The Nature Occupations.

are the product of his pencil during a tour through Sicily, lower Italy and Greece, to see and sketch the remains of classic temples. What they strikingly show is the achievement of the Classic ideal in making a harmony of paired things which, it would seem, can be brought intimately together in the religious life and in no other way. These classic couples are Man and Nature, Town and Country, Landscape

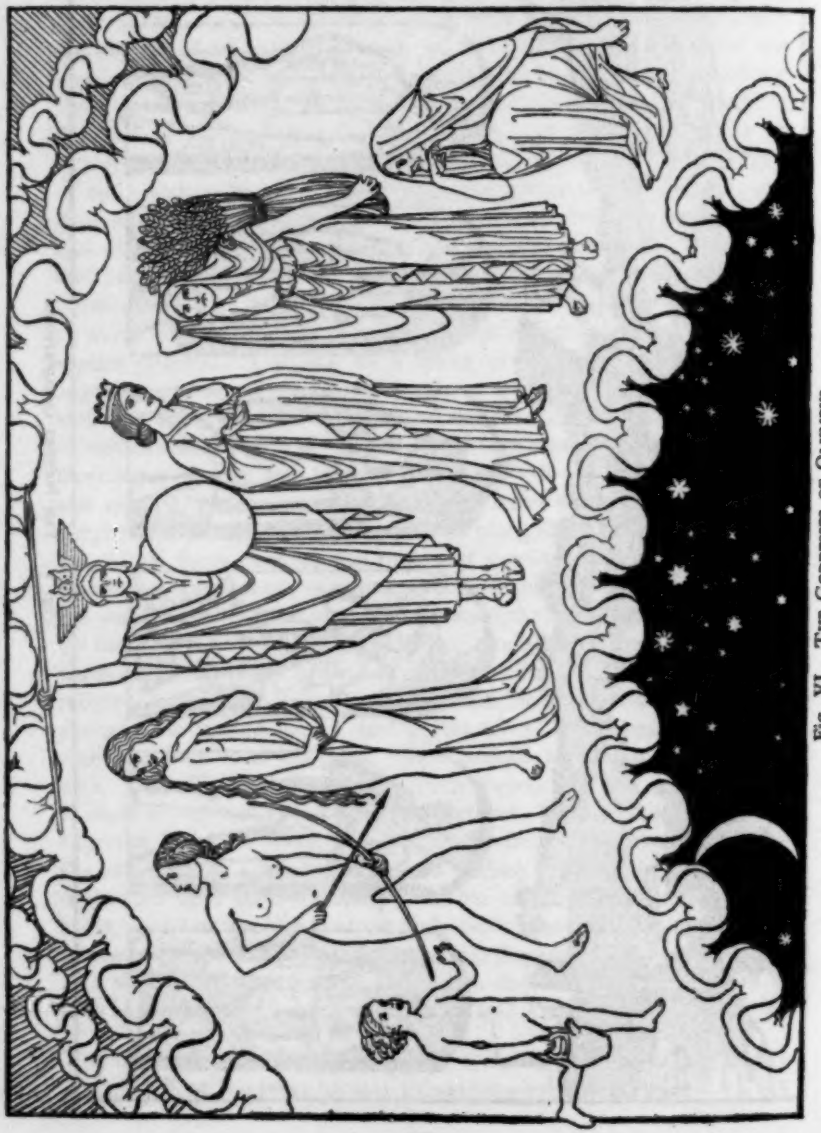

Fig. VI. The Goddesses of Olympus.

and Architecture. The perfections of human personality, sought and found by the sculptor's art in the heyday of Hellenic civilisation, are illustrated in a series of photographs which occupy the middle row of this exhibit. How the deities of the Olympic Pantheon express a well-schemed series of human ideals from childhood and youth through maturity to age, and for both sexes, we see in a diagrammatic presentation of "The Seven Ages of Man." (Figs. VI. and VII.)

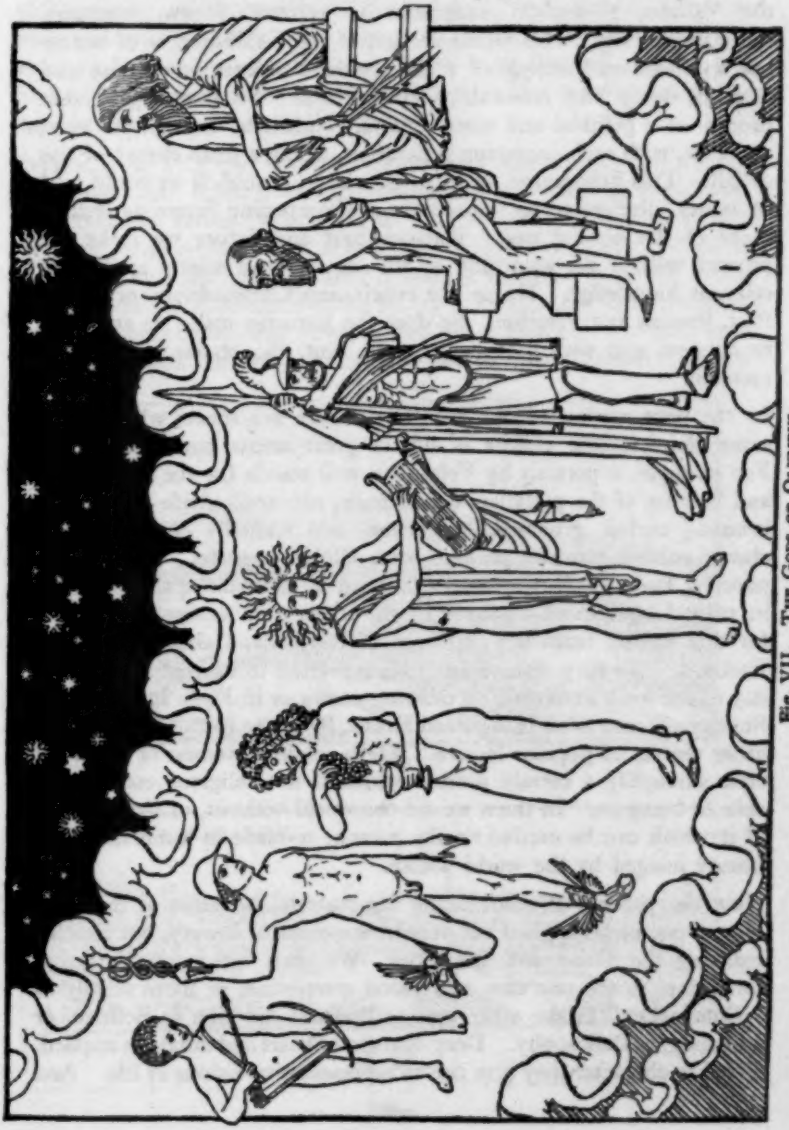

Fig. VII. The Gods of Olympus.

ABOVE these classic ideals of the human form divine stand three immense civic representations. First comes the Roman Forum in ruins, next there is the decayed Colosseum, and finally the Vatican with its colonnades, courts and fountains. This trio of great pictures reveals two things. First in Forum and Colosseum, it stands for the ruin that followed upon the loss of unity and integrity by the classic ideal of life, in decadence during the later Empire. Next, it portrays, in the Vatican, a modern endeavour to recover, renew, maintain, the classic unity. This whole section of the Exhibition is of course but specimen and sample of a characteristic process in the rise and flourish, decay and renewal, of civilisations. We may regard that process as a political and moral drama, continuing through the ages, and ever, with each oncoming generation, facing a fresh climax of rise or fall. This Ethodrama, as we might call it, should, if we could read its issues, disclose to us the secrets of the opening future as well as those of the closing past. Between past and future we make the present well or ill, according as we acquire, and wisely apply, the relevant knowledge. Hence the continuing Chronodrama of Man's Past, Present and Possible. So does the historian make his approach to religion, and with him go, at their best, the statesman and the moralist.

IN the next section of our Exhibition there are sheets which show some characteristic visions of life as great artists have seen them. For example, a portrait by Velasquez well stands for the Gentleman and Scholar of the patrician Renaissance, adorned outside in silk and brocade, curled, groomed, bejewelled, and mentally enriched by a classic culture touched perhaps with Christian grace. The corresponding Lady—a degree less magnificent in externals, a shade poorer in mental equipment—we see in the illustrative examples selected for this exhibit from the paintings of Reynolds, Gainsborough and Raeburn. We may discern her pale reflection in current life on any day of the week in West-End drawing-rooms or in Hyde Park, and on Sunday afternoons on Hampstead Heath, Battersea Park, or a thousand other resorts of popular leisure. These modern women of whatever class exemplify a certain process which if not religious comes very near to being so. In them we see the world-without, or that portion of it which can be carried on the person, re-made in semblance of a beauty imaged by the world-within.

NOW the process of refashioning the material in terms of the ideal may of course be applied not only in the cause of Beauty, but also for realising the Good and the True. We then recognise the transformation, in the one case as a moral conversion, or more simply as "Conversion," in the other case as habitual devotion to Science, or Learning, or Philosophy. Deep changes of heart and mind are implied. Fixed in character they give rise to representative visions of life. And

these in turn determine conduct. Moral conduct admittedly bears a religious quality. But the psychologist affirms a religious value in æsthetic and intellectual conversion also. Yet William James, when he said that the consciousness of being well dressed gave a woman more satisfaction than the virtues of religion, overstepped somewhat the psychological approach. Persistently to endeavour after visioned perfections that can be made to come true is to engage in the drama of Personality, which we may call Soul-play or Psychodrama. Observe well, and interpret truly, the course of this Soul-play of Personality, and you pursue the approach to religion from Psychology. In this field of observation and research, artist, poet and novelist are to be sure far ahead of the men of science.

INTERACTING with the issues of personality there is the communal endeavour after fullness of life. Nowadays it mostly takes political and economic form. And to those who follow this fashion of the moment, religion may seem a survival, an archaism, even a superstition. Yet the fact remains that a certain unity of personal desire and social action is assumed when we try to remake the world-without into semblance of an inner vision. But that endeavour is a traditional quest of religion, indeed, the supreme one, as many believe. In the

Fig. VIII.

Fig. IX.

history of the Great Religions we see each system of worship at its apex concentrating on a perfected adjustment of the outer world to the purified and perfected inner vision. Hence has arisen that standard concept of ancient religions, the Sacred City. That phrase is nowadays in the West usually limited to a single city, but do not all those cities we designate as Great possess and manifest something of the sacred? Surely this is true not only of ancient places like Jerusalem, Rome and Athens but also of cities at once historic and modern like our own Westminster. (Figs. VIII.-XI.)

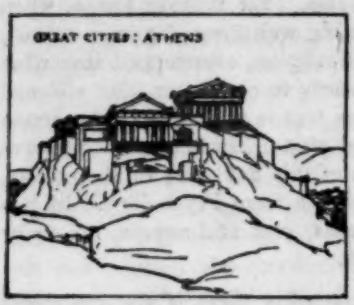

Fig. X.

Fig. XI. WESTMINSTER.

Now the Ideal, when really incarnated in Man, impels him to the building and maintenance of cities made to a pattern revealed on the consecrate Mount of Vision. But that is an affair at once communal and personal. It implies the attunement and unison of all those preceding dramas of the World, of Life and Labour, of Politics and History, of Art and Morals; each of which makes its own specialised approach to religious origins and issues. Here in this concerted play of the high unity, is our sacred Civic Drama. Christianity recognises the vastness and complexity of this Civic Drama by representing attainment therein as the making of God's Kingdom on Earth. The approach to religion from Civics comes therefore very near to theology. This Civic Approach is symbolised in our Exhibition by Mr. Mairet's cartoon, which sketches a synthetic presentment of Classic and Gothic tradition in Architecture, and of both as arising out of the life and labour of the People, and returning thereto with a vision of fulfilment. (Fig. XII.)

Fig. XII. THE CLASSICO-CHRISTIAN IDEAL.

HERE the first part of our Exhibition ends. A window breaks into the wall-space, and frames a sample view of the great world-without. Let us treat this glimpse of metropolitan reality as an item in our series of exhibits. Across the way over the street, you see the pediment of a Classic Building which houses the Industrial Museum. Confronting it are the more Gothic arches and towers of this Imperial Institute in which we are assembled. Now this question arises. May these two structures—the Industrial Museum and the Imperial Institute—be reckoned as in any sense manifestations of the consecrate edifices portrayed in Mr. Mairet's civic cartoon, or are they but vain appearances indicative of secular debasement? For answer recall, to begin with, two other Museums we have already examined with a

similar query in mind. But lest it be thought that those Museums were not fair samples of the current approach to Unity, consider this more intimate problem. Search the minds of citizens passing by in the stream of traffic that threads the street of our civic view. Maybe we can find reflected in their minds the essential characteristics of our type institutions. The conundrum may be put as follows: does a harmony of Classic and Christian heritages enrich the inner life of these pedestrians, and re-express itself in their personal and family milieu? To pursue the search, follow these citizens to their homes, and observe what of beauty, order, and grace, are there to be seen. The woman's part is perhaps most fully expressed in her drawing-room; and there no doubt beauty reigns, if not order or grace. The outside of the male mind is not so easily discerned in the domestic circle. But a clue to male mentality can usually be discovered in the backyard, whether of house, factory, or institution. And as it happens our window view opens upon a large area of institutional "backyard." It is strewed with broken packing-cases, waste paper, decayed bits of masonry, and the space not taken up by litter is given here to patches of weedy grass, there to the dirty débris of a dead rockery, and for the rest is occupied by luxuriant stretches of massed docks wilting after a copious harvest of hateful seeds. In short, it would be hard to find a more vivid picture of sordid confusion than this backyard of a great Government Institution. Now domestic backyards, as every-day observation confirms, too often resemble our institutional variety. Is it unfair to take both kinds as reflecting the general muddle and meanness of our current civilisation? At any rate there is evidence abundant, and on all sides, to indicate the confusion of mind, and duplicity of purpose, from which we all suffer. What was the world-wide strife of the Great War, but the climax of testimony to a deep-seated anarchy of mind? So we may welcome, as appropriate to our view upon metropolitan reality, the presence of the Imperial War Museum, which bulks large to the right of the picture. Its miscellaneous assemblage of bellicose remnants, gathered in the first flush of victory, admirably exemplifies the prevalent discord of inner life and outer circumstance. And yet it is a historic fact that, for some two millennia and more, civilised mankind has lain under spiritual dominion of religions contrived to impart harmony and fullness to the inner life, and to order and maintain the outer world to this end. How explain this paradox of the ideal so sharply and continuously at cross purposes with the real?

For some beginning of an answer, return to our mural Exhibition. Two small collections have been assembled to represent the oldest and the youngest of the great historic religions. We would show first something of their essential qualities, but also, in the sympathetic yet critical searching of science, we would discover too some verifiable

ground of explanation towards resolving the persistent irony which turns harmony into discord and peace into war. What has the sociologist to say of a religion so venerable and variable as Hinduism? Truth to tell, he has hardly begun to explore this field. Still, we cannot go far wrong in selection of a comprehensive symbol. A flaming wheel of life with its maze of a myriad symbolisms, as depicted by the subtle hand of a Tibetan artist, may well stand for the sempiternal vitality and ubiquitous adaptability, which has made India the Mother of religions for the Great East. Its noblest and most widespread offshoot, Buddhism, is here represented by a series of ancient tapestries showing its Founder in many guises, but always depicting the diverse serenities of an ennobled personality. Alongside our symbolic wheel of human life is placed a vegetation map of India. At a glance we take in the partition of the vast peninsula into cultivated plains, uplands of grass or scrub, forested or bare hillsides, and sandy deserts. Here, then, is the great world-without, and its nature-given scheme of Land and Labour, which have conditioned the origin and development of Hinduism. If we would understand the symbolic Wheel of Life, must we not see it in relation with the Vegetation Map? But there are other material factors of deep significance in India's characteristic world-without. The most enduring of these is vividly presented in a great map which hangs dominant over all these Eastern Exhibits, as the Roman Forum overtops our Western Exhibits. In this Indian map the Himalayas stand out an immense arc towering above the northern plains, themselves flanked on each side by deep ocean bays. Facing that giant mountain wall, and confined by far-stretching sea barriers, the man of the Indian plains remains planted in a vortex of forces terrestrial and celestial. Can we hope to penetrate the deeps of Hinduism and Buddhism without strenuous effort to realise how the mind is here driven perpetually to wrestle for the reconcilement of Nature's glories, powers, terrors, and Life's hopes and fears, rhythms and perturbations? Are we not confronted by one of the perennial sources alike of the Nature-religions and the Spirit-religions? But can we aspire to grasp the truths which animate both these types of communion with ultimate things, unless all the time we bear in mind, and take to heart, in equipoise, the data of the vegetation and the orographic maps, as well as those of the symbolic chart? Ultimate things grow unreal as they drift away from the elemental factors of Place, Work, Folk. Have the great historic religions been ever as careful as they might have been to correlate their doctrine, ritual, teaching, with the Place, Work, Folk of this, here, now?

PASS to Mahommedanism. Our Exhibit shows centrally a caravan in march across the desert, next its approach to the holy city, and again its departure. The Koran generalises and applies to life at large the

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mental and moral discipline evoked in his companions on desert march by the inspired caravan driver. How this severe spiritual regimen is continued and propagated amongst the youth of Islam, we catch a glimpse in regarding the picture of a very representative Arab scene. An itinerant Teacher, venerable and white-robed, expounds the Koran to a circle of young listeners grouped around him in outdoor audience. Here is an institution arising direct from life and labour. It is at once a school of elementary and higher education, a cloister of knowledge and cult, bringing together in fertile communion an élite of youth and age. Rich, therefore, in life-values and civilisation-values, is this type of culture institution. Yet it costs next to nothing for maintenance. Economics and Morals, Education and Religion, are all here at one—no doubt a vital factor in the survival and spread of Mohommedanism. There are other pictures showing the mystic beauty of oases and the resplendent colours of Moslem cities. Above them all stands a large map comprising the near East and all Africa. It is printed in Arabic lettering ; and may be taken as a sample of that newer Moslem culture, which begins to look more to science and to learning than to religion for knowledge of things and means of life-abundant. Now there are no doubt special advantages to be derived from this " modern " way of severing intellectual from emotional interests, and both from practical affairs. There are also particular disadvantages. New ideals and fresh temptations arise. Their meaning, significance and resultants are becoming better known to us in the West, as we reflect upon the course of things during the past two to three centuries, and mark the drift of occidental civilisation towards strife and war, towards anarchy and confusion.

By way of illustrating the qualities and defects of analysis, and thereby the need of synthesis, turn to the next section of our mural Exhibition. Here some sheets have been put up to indicate the scope and character of the two concluding papers of the Conference. The preceding Exhibits were intended as a graphic commentary upon the more specialised papers of the scientific approach. Those papers by representative specialists were followed and brought to an issue by two addresses of more synthetic aim, one making an approach from the Scholar's standpoint, and the other from that of a comprehensive and systematic Sociology. Take first the scholarly ideal that moves the man of erudition towards unity of life and mind ; but consider also the temptations that tend to arrest his progress, or even reverse it. The nine musal voices all call to him in turn. In each of these diverse moods he cultivates the relevant tradition. He reads, studies, appreciates, criticises, the literature stored in every branch of a great library, and himself perhaps contributes something original, even unique. Such is the scholar's approach to the unity of life and letters. Its expression in architecture may take form in a veritable temple of

the Muses ; as the coloured illustrations of the American Congressional Library, in our exhibit, well show. In more abstract mood we may indicate the Scholar's humanist ideal by a synthetic diagram which composes into a unity the six-fold drama of our protean life. (Fig. XIII.)

Fig. XIII. The Scholar's Ideal of Life's Six-fold Drama.

But something seems ever to hinder an attainment marked by the catholicity and universality of religion. The lift of communal life through learning, that was promised at the Renaissance (when scholarship separated from religion), would appear to be as far off as ever. What is the arresting temptation that lurks in erudition ? Mr. Mairet's cartoon suggests some reasons for the scholarly falling short of life-fulfilment. (Fig. XVI.). A verbal analysis of the cartoon would be superfluous. But the remark may be permitted that erudition fails when it repeats the recurrent error of religion by violating the sacred unity of Folk, Work, Place.

The true sociological ideal is to be in turn analytic and synthetic, and to practice these two modes of approach to unity towards mastery of each, and of both together. A complex diagram which would need a whole address for elucidation stands for the sociologist's ideal. (Figs. XIV. and XV.). But the formulæ of perfection have to

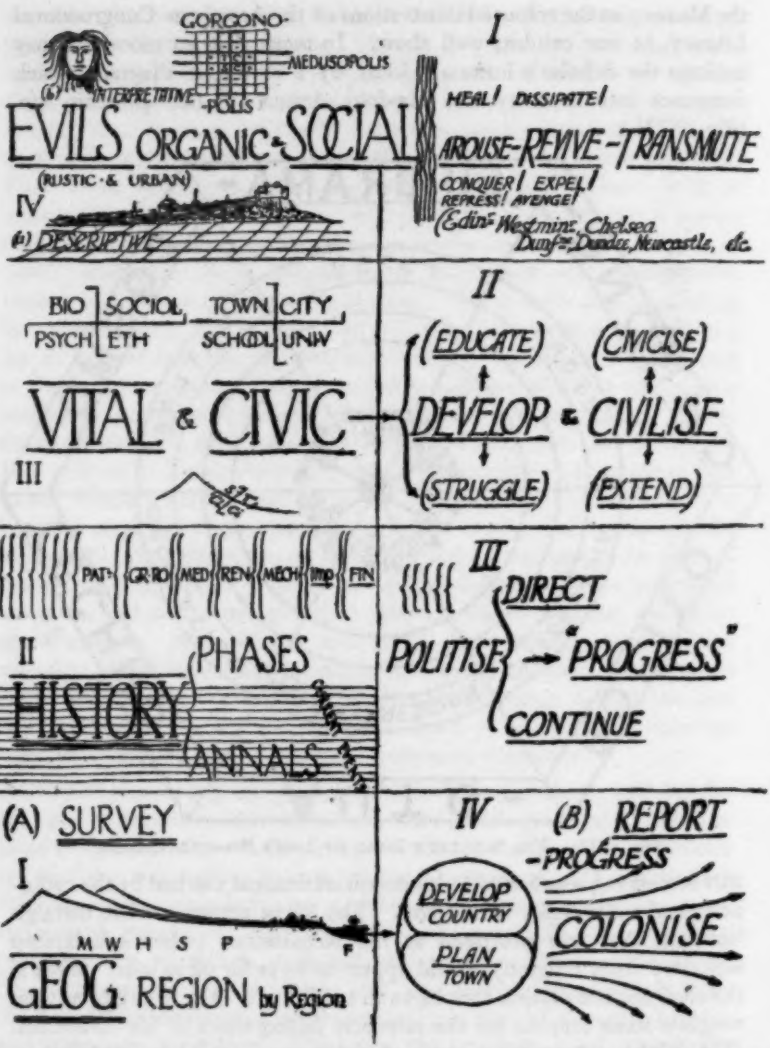


Fig. XIV. The Sociologist's Ideal of Survey and Service (parallelised on left and right respectively, yet in reverse order of I., II., III., IV. for methods of science and of practice respectively).

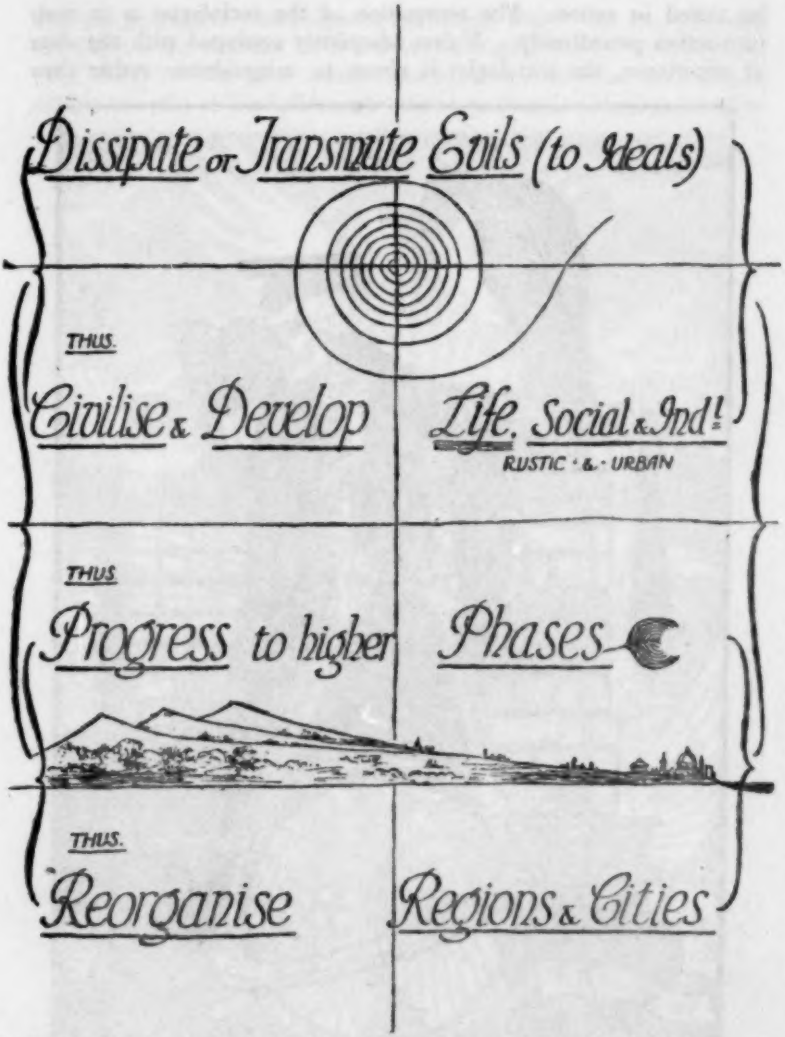


Fig. XV. THE SOCIOLOGIST'S IDEAL OF ACTION (AS CLARIFIED FROM PRECEDING PAGE, AND BEST READ DOWNWARDS).

be tested in action. The temptation of the sociologist is to rush into action prematurely. Unless adequately equipped with the data of experience, the sociologist is given to misguidance rather than

Fig. XVI. THE SCHOLAR'S TEMPTATION.

to guidance of the statesman. It was no doubt more than a coincidence that the generation which established classical economics—a pseudo-sociology—in the universities of Europe and America was

also the generation that prepared the Great War! In Mr. Mairet's cartoon it is the crowned birds and beasts of state who are seen at strife. (Fig. XVII.). But their minds must have been suffused with incompatible theories of life-fulfilment. And who but sociologists, actual or

Fig. XVII. THE SOCIOLOGIST'S TEMPTATION.

would-be, have been their guides and inspirers? The inference would seem to be that sociologists, like economists, like scholars, as yet fall short of the larger unity which is genuinely religious.

AGAIN, our mural Exhibition is stopped by a window in the wall. It looks upon another backyard, which at a first glance offers no more

pleasing a prospect than the other one we examined. Dumps of coal fill the foreground, and beyond is a hideous tubular chimney stack rising over a corrugated iron roof. Is not this a fair speciman of the world-without, relevant to the mechanical and pecuniary world-within which imposes itself upon those who divorce intellectual from emotional interests, and both from labour and from affairs? Regard more closely, however, the process at work in this backyard. Penetrate the corrugated iron shed. You see machines which, with clean, swift, noiseless magic, transform these coal dumps into illuminant for acres of buildings and power for many laboratories and workshops. Here, then, is symptom of a change taking place in our industrial system, which is in the nature of a metamorphosis. Is it an accident that in this same backyard the vacant space does not grow docks and weeds, but is gardened? Is it an accident that no Imperial War Museum, but a School of Music, bulks large in the view? Who can tell? But of this we may be sure. To purify, ennoble, enrich, our world-within we need all the resources of religion, poetry and learning; and to remake our world-without into a fit home for humanity we need all the resources of science, art, industry; and, above all, we need continuity and persistence in quest of that unity between inner and outer, which has inspired all the great religious founders. What, in conclusion, can be said as to the immediate or pending contribution of sociology to this central issue of peace and progress for the family of mankind in its pathetic struggle to make a worthy home on our planet? It is, we contend, the part of sociology, to prepare for collaboration with church, chapel and temple, in fashioning visions of life, harmonious with tradition, adapted to present needs and aspirations, oriented to the future, and realisable by communal interplay with an adequate environment, day by day, city by city, region by region.

VICTOR BRANFORD.

V.

ESSENTIALS OF THE RELIGIOUS PROCESS.

OF the three books mentioned below*, two are manifestly complementary; standing to each other in a very definite relationship. Professor J. Arthur Thomson, in a series of chapters written in that exquisite prose at once scientific and poetic of which he is a constant master, leads the reader onwards from the sciences of Matter and Energy, upwards through those of Life

*SCIENCE AND RELIGION: by J. Arthur Thomson, M.A., LL.D., Professor of Natural History, University of Aberdeen. (Methuen & Co. Ltd., 36 Essex Street, London, W.C.)

CHRISTIANITY AND SOCIAL SCIENCE: A Challenge to the Church: by Charles A. Ellwood, Ph.D., LL.D., Professor of Sociology in the University of Missouri, Author of THE RECONSTRUCTION OF RELIGION, &c. (New York: The Macmillan Company.)

MYTHOLOGY: by Jane Ellen Harrison, Hon. LL.D. (Aberdeen), Hon. D.Litt. (Durham); sometime Fellow and Lecturer of Newnham College, Cambridge. (George G. Harrap & Co. Ltd., London, Calcutta, Sydney.)

and Mind, ultimately to debouch upon heights where is caught and held a religious vision of man and his world. Each chapter opens a revealing vista, whence appears an " enlargement of God," in the sense of that audacious phrase enjoined upon theologians by Schleiermacher. Yet the book lacks something essential to a full evolutionary view. It contains no chapter on the approach to religion from the side of social science. Towards filling this gap Professor Ellwood's book goes a long way. True, this new volume of his, CHRISTIANITY AND SOCIAL SERVICE, is intended to be more practical than theoretical. But incidentally Professor Ellwood inserts in his text a running abstract of the reasoning developed in a previous book, THE RECONSTRUCTION OF RELIGION. This latter work (reviewed in the SOCIOLOGICAL REVIEW for July, 1922) was an exposition of the sociological approach to religious origins and issues, by one of the most active and fruitful of contemporary sociologists.

As to the standpoints and conclusions of these two books, let us take first Professor Thomson's, and cite the following passages from his final chapter. He says in a concluding summary, " scientific data do not in any direct way furnish a basis for religious conclusions. But science, with its disclosure of the Order of Nature, may suggest and enhance the religious view. If we pass beyond science towards a synoptic view, correlating with scientific data what may be gained on other rights of way to Reality, then the question rises : Is the scientific picture of Nature and Man in harmony with the religious interpretation reached in other ways, for instance, through the Christian revelation ? If not, then there is no " natural religion," no " natural theology."

" THE search for a synoptic view has yielded a sketch rather than a picture, and there are many difficulties and obscurities. Yet we must not fail to appreciate the value of the scientific disclosure of the intelligibility of the world—the order, continuity, unity and simplicity of Nature."

" ANOTHER large impression is the practical universality of beauty in Wild Nature, except where there has been recent breakage or where man has interposed. Among living creatures beauty is almost everywhere except in the half-developed and in parasites—exceptions that seem to prove the rule. Beauty in organisms seems to be the expression of orderly unified living."

" THERE has been in Nature a general advancement in differentiation and integration. The solar system is an advance on the whirling nebula—in differentiation and in its nearer approach to more significant steps, such as the emergence of living creatures. All through the ages life has been slowly but persistently creeping upwards. In the ascent of animals there are discernible trends towards greater mastery of the environment, increased freedom and fulness of life, and a growing dominance of mind."

" PROGRESS is a human concept, implying the two pre-conditions of health and wealth, and then a balanced all-round movement towards the fuller embodiment of the true, the beautiful, and the good. To these there are remarkable correspondences in Animate Nature. For Wild Nature is all for health ; and the capitalisation of energy is illustrated both centrally and peripherally. Wild Nature is all for beauty. Success rewards the clear-headed animals that face the facts. A premier place is given to types that are good parents, good lovers, good kin—self-subordinating as well as self-preservative, other-regarding as well as self-assertive. There is an

evolutionary momentum behind man at his best; it finds expression in the fibres of his being, and in the social system which he develops. The more we know of Animate Nature along these lines, the more does the world become a home in which the religious can breathe freely."

"To the question: Does Nature admit of religious interpretation, many would give a negative answer. That Nature sometimes shows sanguinary internecine struggle is undeniable. But struggle is a tonic and a sieve; it is not always crude; it is rarely, if ever, 'cruel.' The economy of Nature depends on a series of successive incarnations, and broad foundations are needed to support the soaring superstructure. It is difficult to give a 'reasonable explanation' of 'lost races,' which attain high success and then disappear without leaving any direct descendants. But they may have indirectly served the general advancement of life, and in any case, we must allow for some freedom of experiment and imagination. Perhaps the possibility of success also implies the possibility of failing to attain to full fruition."

"THE question why man should be religious at all brings us back to the initial thesis, that religion is the growth of tendrils that reach towards a spiritual order of reality, when man finds himself at his intellectual, practical (ethical chiefly) and emotional limits. That these tendrils simply coil on themselves is a rationalistic interpretation which does not seem to cover the facts. Religion is not merely a projection of the best that is in us, it is an opening of our hearts to the best that is outside of us."

"RELIGION may arise in response to the need of rationalising our experience and finding some answer to the questions: whence, whither, and why, questions which science cannot answer. It may arise in response to an appeal for ethical aid, from the old 'life-givers' up to the Christian conception of 'grace.' Or it may arise in emotional crises, on the heights of joy and in the depths of sorrow. Or it may be a flower that opens in the atmosphere of Nature Contemplation. In the last case there is in the religious experience something much more than a crutch or a support, there is an enrichment comparable to that afforded by music. This element is present in other forms of religious experience, but it is peculiarly true of that associated with Nature Contemplation."

TURNING next to Professor Ellwood's new book, we find his main conclusions, or rather the practical applications of them, set out in the form of a sociological Creed printed as an Appendix. The gist of it is embodied in the following statement: "We believe that the supreme task of mankind is the creation of a social order, the Kingdom of God on earth, wherein the maximum opportunity shall be afforded for the development and enrichment of every human personality; in which the supreme motive shall be love; wherein men shall co-operate in service for the common good and brotherhood shall be a reality in all of the daily relationships of life." From this statement of faith, the following plan of action is deduced: "We must, therefore, endeavour to transform such unchristian attitudes and practices as now hinder fellowship: extravagant luxury for some, while many live in poverty and want; excessive concentration of power and privilege as a result of vast wealth in the hands of a few; monopoly of natural resources for private gain; autocratic control of industry by any group; production for individual profit and power rather than for social use and service; arrogance and antagonism of classes, nations and races; war, the final denial of brotherhood."

COMING now to the third book on our list—Jane Harrison's MYTHOLOGY in the series called OUR DEBT TO GREECE—let us start with a citation from her INTRODUCTION. "Each and every religion," says Miss Harrison, "contains two elements, Ritual and Mythology. We have first what a man does in relation to his religion, i.e., his Ritual; then what he thinks and imagines, i.e., his Mythology, or if we prefer so to call it, his Theology. Both what he does and what he thinks are alike informed and vivified by what he feels, what he desires." Again, "the unit of conscious life is neither thought, nor feeling, nor will, in separation, but all three in movement towards an object. But it must further be noted that the will is primal. Conscious life is always oriented towards something to be secured or avoided immediately or ultimately. Religion, then, is only one particular form of the activities of conscious life. The religious impulse is directed to one end and one only, the conservation and promotion of life. This end it attains in two ways, one negative, by the riddance of whatever is hostile, one positive by the impulsion of whatever is favourable to life. All the world over, religious rites are of two kinds, of expulsion and impulsion." . . . "While man is carrying out his ritual, practising his rites of expulsion or impulsion, he is also thinking or imagining; some sort of image, however vague, rises up in his mind, some mental picture, some imago of what he is doing and feeling. . . . . Man is essentially an image-maker. . . . . The clearness, the vividness of the image will depend on the natural gifts of the image-maker. In one man's reaction, the image will be dim, confused, non-arresting; in another it will be clear, vivid, forceful. It was the supreme genius of the Greeks that they were image-makers, iconists. In Greek mythology, we have enshrined the images fashioned by the most gifted peoples the world has ever seen, and these images are the outcome, the reflection of that people's unsatisfied desire."

IT was the poets who gave to the Greek Gods "their titles, their special powers, their forms. . . . . The Greeks were not priest-ridden, they were poet-ridden, a people, as the word poet implies, of makers, shapers, artists. They started with the same religious material as other races, with fear of the unseen, with fetish worship, with unsatisfied desire, and out of this vague and crude material they fashioned their Immortals, such as Hermes, Poseidon, Demeter, Hera, Athena, Aphrodite, Artemis, Apollo, Dionysus, Zeus."

FOLLOWING this psychological sketch of religious origins and outcome, Miss Harrison gives in the nine chapters which make the body of her book a reasoned account of the main deities of the Greek Pantheon endeavouring in each case to show how they came to be. Then in a Conclusion she returns to the general thesis of the Introduction. Our debt to Greek Mythology she says is two-fold. "To it we owe first the heritage of a matchless imagery, an imagery which has haunted the minds of poets and artists down to the present day; second, a thing, intimately connected with this imagery, the release of the human spirit in part at least from the baneful obsession of fear." . . . . "A nation less gifted loads the name of its god with epithets and his idol with attributes; the Greek, because dowered with imagination, feels his god as a personality, with a live human history. This god is as much the outcome of his emotions as of his intellect—perhaps even more. The life of the Greek people is re-lived in him. It is because of this great actuality of the Greek gods that we have been at pains to show in detail how they came to be, how they express and project the life of the people who imagined them."

"BUT reality in godhead, though it is much, though it lends to the divine figures a warmth and solidity and gladness that cheers and supports, is not enough. For a god to be really a god, he and his myth must touch us with some remote and magical appeal, something of light supernal and grace unspeakable, something that gives release from the ever imminent actual. It is, I think, through this blend of the real and the unreal that the gods and myths of the Greeks remain perennially potent in literature, while the mythical monstrosities of Egypt, Assyria, India are doomed to a sterile death."

. . . . "BY some inspired instinct, the Greek seems to have anticipated in practice the latest discoveries in modern psychology and especially in modern therapeutics. To banish fear, to banish any evil, we must exercise not the will but the imagination, we must not so much determine to be brave, not make 'good resolutions,' but think brave, cheering thoughts, think good things, beautiful things. Plato desired for the young citizens of his ideal Republic that they should 'pasture' their minds on beautiful thoughts. In a word, according to the new psychology of Coué, Baudouin, and a host of disciples, if will and imagination conflict, it is imagination that comes off victor. Thought, imagination, is the starting point of action. And above all, let that thought be active, live, positive, not negative. As Baudouin has well said: '*Veni Creator* is in all ways a much surer method of exorcism than *Vade retro Satanas.*'"

TRY now to assemble and put together the respective contributions of our three authors. Professor Thomson, naturalist and poet, stresses those impulses and aspirations which look to life-fulfilment by developing to the utmost every potency of contact with the mysteries of our world. Professor Ellwood, social thinker and worker, insists on the facilitating of fellowship and the bettering of environment as joint-factors in the high fulfilments of personality. Miss Jane Harrison, classical scholar and neomatriarch, accentuates the use and value of ennobling imagery in purifying the mind, exalting the heart and energising the body. From this triad of complementary essays in the uplifting of life we are, therefore, led to the idea of four essential ingredients in the religious process. They may perhaps, in briefest condensation, be set down as: (1) the mystic marriage of man and nature: whence arise the masteries of magic; (2) the integral union of personality and community: whence issue the sources of romance and the healing grace of holy communion; (3) the impassioning of life, and the purging of mind, through imagery of perfection: whence comes to birth the spirit creative; (4) the paradisal play of spirit upon environment: whence is renewed the perennial endeavour towards cities of the ideal.

IF this fourfold view of the means and modes of life-fulfilment be accepted, it yields a working conception of the religious process. In the twilight of an evolution thus glimpsed we may read a progressive purpose in religious development. We may say that man leads a religious life in the measure that its pattern is woven from all the four strands of fulfilment. And hence this major affirmation. To be religious, in the full rich sense, is to be civico-religious. And the impulse to this developed form of religion grows with the quest of life visioned at the full through the revealing windows of an unfaltering progress in its attainment by means of trial and error.

IN addition to the three books above, there are two other recent volumes that might well have been brought within the scope of this review. They are Sir Arthur Keith's THE RELIGION OF A DARWINIST, and Mr. Bertrand

Russell's MY BELIEFS. We have not seen either of them. But, to judge from other reviews, they both suffer from a certain historic bias. They seemingly approach religion from the standpoint of what might be called the decadent Renaissance limitation. In that view a man's religion was expressed by his attitude of belief or scepticism towards such elusive concepts as Immortality and Freedom. In so far as this imputation of bias holds, it would appear that Mr. Bertrand Russell's title (MY BELIEFS) is accurate, but Sir A. Keith's should have read THE IMPOVERISHED RELIGION OF A DARWINIST. But that devastating tradition of the later Renaissance, which deflects or inhibits nearly all contemporary thought, is itself an archaic survival. It dates from the epochal misadventure which split apart Nature and Spirit, driving both into divergent courses. Their reconciliation is some two thousand years, and more, overdue. So long have the nature-religions of primitive folk, and the spirit-religions of civilised societies, been at cross purposes. But vastly complicated is the issue, for it would be a mistake to suppose that the nature-religions are confined to primitive folk; they pullulate in all of us, however cultivated our mind. Wearily the world awaits the coming of a healing wisdom well contrived to make the nature-religions more spiritual, and the spirit-religions more natural.

V. B.

REPRESENTATIVE BIOLOGICAL THEORIES OF SOCIETY: by H. E. Barnes.

II. "SOCIAL DARWINISM" (continued from the SOCIOLOGICAL REVIEW for July, 1925).

3. THE PROGRESS IN THE THEORIES OF GROUP-CONFLICT SINCE GUMPLOWICZ.

PROBABLY the best criticism that can be made of the system of Gumplowicz is to examine it in the light of the doctrines of those members of the so-called "conflict school," who have written since Gumplowicz set forth his theories in the RASSENKAMPF and the GRUNDRISS. Not another theorist of this school accepts his bald parallelism between biological and social evolution or approves of his notion that the struggle of races, states and social groups must continue without termination or mitigation. All either contend that the conflict is transferred from the crude and elementary physical plane to a higher level of competition, or maintain that conflict ultimately ends in adaptation or co-operation. Loria, Vaccaro, and Oppenheimer have emphasised the fact that the primordial physical struggle between groups is transformed into an economic conflict.[42] Novicow has held that a study of social evolution reveals the fact that the primitive physical contest is progressively commuted through the alliance and federation of groups, and through the substitution of intellectual competition.[43] This field of psychic strife has been explored with acumen by Tarde, Sighele and Williams.[44] According to De Greef social evolution is a process of gradual substitution of contract and consent for the force of more primitive times.[45] Spencer and Tarde, but more especially, Vaccaro, have built up systems of sociology based upon the thesis that conflict ultimately terminates in an equilibrium or in adaptation.[46] Finally, Ratzenhofer and Small have insisted that conflict is continually tempered by socialisation and is transformed into co-operation, and that the "conquest-state" of early days is superseded by the "culture-state" of the modern age.[47]

THEREFORE, even many of the adherents of the "conflict" theory are generally agreed that the transformation of conflict into alliance and co-operation seems to be a function of social evolution, and would

[42]A. Loria, THE ECONOMIC FOUNDATIONS OF SOCIETY; M. A. Vaccaro, LES BASES SOCIOLOGIQUES DU DROIT ET DE L'ETAT; F. Oppenheimer, THE STATE.

[43]J. Novicow, LES LUTTES ENTRE SOCIÉTÉS HUMAINES.

[44]G. Tarde, L'OPPOSITION UNIVERSELLE; S. Sighele, PSYCHOLOGIE DES SECTES; and J. M. Williams, PRINCIPLES OF SOCIAL PSYCHOLOGY.

[45]G. De Greef, INTRODUCTION À LA SOCIOLOGIE.

[46]H. Spencer, FIRST PRINCIPLES, Part II.; G. Tarde, LA LOGIQUE SOCIALE; Vaccaro, op. cit., especially Introduction, pp. v.-vi., 178f; 188ff.

[47]G. Ratzenhofer, WESEN UND ZWECK DER POLITIK; DIE SOCIOLOGISCHE ERKENNTNIS; A. W. Small, GENERAL SOCIOLOGY, pp. 190ff.

apparently support the notion that war must be followed by an ultimate international adjustment which will forever exclude the recrudescence of the crude process of physical warfare. But all this lies in the realm of the abstract. It may readily be conceded that these theories are valid, but it may legitimately be asked if we must wait for the tardy and expensive methods of allowing this final era of alliance and co-operation to be brought about by the automatic processes of social evolution. Cannot man anticipate this development and by legislation secure the benefits of peace in advance? The doctrine that man may anticipate the normal course of social evolution by well considered legislation was one of the few sound doctrines contained in the fantastic social philosophy of the French utopian socialist, Fourier.[48] It was revived and made the corner-stone of the sociological system of America's earliest and most voluminous writer on sociological matters, Lester F. Ward. The bearing of this important thesis upon the present problem of the creation of a League of Nations which will furnish that all-important organ for the peaceful adjustment of international conflict for which man has been striving through the ages, is obvious. Few students of history, politics or sociology will doubt the scientific possibility or the desirability of the establishment of such an organisation or the possibility of its erection, if it comprehends and provides for the control of those fundamental sociological causes of rivalry and strife which have existed through the ages and are not likely to be self-eliminated for centuries to come.[49]

4. Jacques Novicow (Yakov Novicov) (1849-1914) and the Sociological Criticism of Social Darwinism.

As has already been pointed out, the chief immediate influence of Darwinism upon sociology, aside from stimulating research into the early history of mankind, consisted in leading many writers to attempt to construct systems of sociology on the foundaton of the Darwinian formulæ carried over into the realm of social phenomena without a proper modification. Thus there arose a pseudo-Darwinian sociology bristling with misleading dogmas, though in some instances empahsising some social processes which had hitherto been neglected. Among the sociologists of this type, Gumplowicz and his followers were the most conspicuous, and with them were allied certain statesmen and political scientists who employed the pseudo-Darwinism as a cloak for

[48] Cf. Gide, Selections from the Works of Fourier; O. D. Skelton, Socialism: a Critical Analysis, pp. 69-70.

[49] For a summary presentation of some of the more important of these sociological obstacles to "perpetual peace" see the article by Dr. F. H. Hankins, "Is a Permanent Peace Possible?" in The Journal of Race Development, April, 1918; for a sociological argument supporting the immediate creation of a "league of democratic nations" to enforce peace, see the article by Professor Giddings, "The Bases of an Enduring Peace," Bulletin of the American Association for International Conciliation, April, 1917.

their militaristic axe. While some biological writers, particularly Huxley and Pearson, had pointed out the fallacies involved in a direct transference of the Darwinian biological terminology to the field of sociological investigation, the first avowed sociologist to devote his life and system of sociology to a refutation of the doctrine that an unmitigated physical struggle for existence is the chief factor in the social process and the mainspring of human progress was the Russian writer, Jacques Novicow.

COMING to France as a young man, Novicow used that language as a medium of expression, and many of his ideas reflect the influence of the western European environment. This is particularly apparent in his anti-militaristic doctrines and his constant attacks upon Bismarck and the policy of "blood and iron" which the latter represented. The Franco-Prussian War and the seizure of Alsace-Lorraine are ever utilised to illustrate the folly, perfidy, and injustice of militaristic statesmanship. At the same time his earlier life in Russia left its imprint in making him an implacable enemy of despotism and of all interference with the free and spontaneous development of the human mind and the unhampered spread of ideas. Like Thomas Jefferson, he had apparently sworn "eternal enmity to every form of tyranny over the mind of man."

NOVICOW'S chief work and the one which embodies all of his vital conceptions is entitled LES LUTTES ENTRE SOCIÉTÉS HUMAINES ET LEURS PHASES SUCCESSIVES, first published in 1893.[50] His later works are primarily an expansion of the thesis partially elaborated in LES LUTTES. If this work and its successor, LA GUERRE ET SES PRETENDUS BIENFAITS (1894), had been familiar to English readers, Mr. Norman Angell's THE GREAT ILLUSION would have attracted far less attention, as it contains few ideas that had not been developed with great vigour by Novicow a decade and a half before.[51]

NOVICOW'S basic thesis is that the course of human evolution has been characterised by struggles and alliances which have successively been primarily physiological, economic, political, and intellectual. While all of these types of strife may possibly always persist, they constitute a progressive series in which the intellectual struggles are the highest type and are becoming increasingly predominant. In fact, even the lower types of strife are tending to come more and more under rational direction.[52] Novicow devotes his first book of LES LUTTES to a brief survey of the fundamental propositions, the expansion

[50]Citations in the present work are from the second revised edition of 1896.

[51]The best short summary of this major work of Novicow in English which is known to the writer is to be found in Bristol, SOCIAL ADAPTATION, pp. 268-282.

[52]LES LUTTES, Book I. passim; Book III., Chap. VIII.

and elaboration of which constitutes his sociological system. At its close he summarises them conveniently as follows:

THE universe is an arena of endless combats and alliances.

IT is impossible to fix any limit to the possible extent of association.

THE struggle for existence is a universal phenomenon. It is in turn chemical, astronomical, biological, and social.

BETWEEN plants and animals the struggle takes two principal phases: elimination and absorption.

EVEN among animals we may distinguish economic and mental struggles.

ALLIANCE does not necessarily exclude the possibility of struggle within groups, but it modifies the nature of the struggle.

THE result of the struggle for existence is adaptation to the environment.

FROM the psychological point of view adaptation to the environment furnishes the most exact formula for comprehending the nature of the universe.

THE struggle for existence, in eliminating those least adapted to the cosmic environment, brings about an increasingly perfect harmony between the subject and the object.

PLEASURE consists in a harmony between the external and the internal world.

FINALLY progress is simply an acceleration of the process of adaptation.[53]

WITH these general propositions in mind, Novicow's analysis of the chief historic types of human conflict may be examined in greater detail.[54] Each of the four phases of human struggles—physiological, economic, political, and intellectual—appears under two different manifestations—a slow and irrational type and the more advanced rapid and rational variety.[55]

THE *physiological* struggle has two main modes, elimination and absorption. The processes of the former need not be discussed, but the latter is manifested in a slow irrational manner by the killing of one's own kind for food, as in cannibalism, and in a rapid and rational manner by killing inferior beings for food and by producing food in an artificial manner. In either case the purpose of the physiological struggle is to obtain nourishment.

THE *economic* struggle and the more elementary and temporary aspects of the political struggle shade into one another. Their purpose is to secure riches, and the slow and irrational phase of the struggles of this variety take place by killing or threatening to kill others to secure: (1) the means of subsistence through raids in search of food;

[53] Ibid., p. 50.

[54] Novicow's detailed exposition of this fundamental aspect of his system is to be found in pp. 51-402 of LES LUTTES, and is summarised in Book III., Chap. VIII. of that work.

[55] Ibid., table opposite page 403, a translation of this table is reproduced in Bristol, SOCIAL ADAPTATION, p. 278.

(2) private movable goods through raids, appropriating personal property and slaves; (3) private immovable goods through the confiscation of lands and dwellings and the reduction of the conquered inhabitants to a condition of bondage and servitude; (4) public movable riches through a war tax; (5) public immovable riches by means of a permanent tribute. The rapid and rational manifestation of the economic struggle and the elementary and temporary political struggle takes the form of (1) more rapid production for a better market than is the case with competitors; (2) good government resulting in an increase of the revenues of a country.

THE higher and permanent *political* struggle, which has for its purpose the securing of riches and the satisfaction of national or group vanity, manifests itself in a slow and irrational manner through killing or threatening to kill or punish others to obtain by conquest a revenue for the conqueror, or superior political rights and privileges for the conquering group. The rapid and rational method of carrying on the higher type of the political struggle is through leading foreign states to desire annexation and thereby building up political federations, and by carrying on a propaganda to spread by persuasion the political conceptions and ideals of a specific nation.

THE *intellectual* struggle has for its purpose the securing of mental satisfactions of various sorts. Its slow and irrational manifestation is through killing, threatening to kill or punish, or through granting favours to others for the purpose of imposing a set of ideas upon a people by religious wars or persecutions, or for the purpose of forcing a given type of civilisation upon another people by coercive denationalisation. Finally, the rapid and rational type of intellectual struggle is seen in promoting the free assimilation of ideas and in stimulating the imitation of the culture which it is the desire of a people to spread.

NOVICOW formulates certain fundamental generalisations in regard to these four main types of struggles with their various manifestations.

IN the first place, he holds that these human struggles in society are but a continuance of the earlier astronomical and biological conflict.[56]

THESE four types of conflict form a logical sequence, and progress consists in increasing the scope and influence of the higher forms and in substituting within the general type of conflict the rational and rapid manifestation for the slow and irrational expression.[57]

THIS progressive transformation is to a certain extent brought about automatically by the operation of the universal biological law that all living beings tend to avoid pain and seek pleasure.[58]

[56]Ibid., pp. 417ff. [57]Ibid., p. 404.

[58]Ibid., p. 407. This is, of course, a proposition drawn from the partially discredited hedonistic psychology of Helvetius, Bentham and the utilitarians, and Prof. Patten.

THE lower and more elementary types of conflict are obstructive to progress if introduced into the field of the higher phases of conflict. This explains the folly of an attempt on the part of the state to interfere with the various manifestations of intellectual conflict.[59]

THE further developments of civilisation in the future will not bring about a cessation of conflict, but will rather tend to produce a greater amount of conflict within society. The conflict will become, however, increasingly intellectual in character and the growth in its amount will thus be beneficial, as social evolution is most rapid in those societies which provide for the greatest amount of intellectual conflict.[60]

NOT only will conflict in the future increase in volume and tend to become predominantly intellectual, but it will be accompanied by an increase of justice and sympathy and a decrease of hatred. It will tend towards competition tempered by mutual esteem and tolerance.[61]

THIS series of struggles tends to bring about the survival of the best individuals, and this survival of the best may be regarded as the essence of justice in its broadest signification. Justice is thus the real goal of the cosmic processes which find their final and most perfect expression in the intellectual struggles of humanity.[62]

THE subject of the waste and disorder in modern society, particularly as due to the expenditures in wars and militaristic measures and the bungling interference of the government in economic matters, is discussed by Novicow in his work entitled LES GASPILLAGES DES SOCIÉTÉS MODERNES (Paris, 1894).

THE indictment of war and its advocates is carried still further in his LA GUERRE ET SES PRETENDUS BIENFAITS.[63] It examines briefly the physiological, economic, political, intellectual, and moral effects of war. In the concluding portion he develops the thesis that sociological Darwinism is a product of a misinterpretation and misapplication of Darwinian biological theories to an interpretation of social processes, plus the prestige of ideas represented by Bismarck and his disciples. He pays his respects to Gumplowicz and Ratzenhofer, the two most conspicuous exponents of this type of sociological theories.

NOVICOW'S most direct and telling attack upon pseudo-Darwinian sociology was embodied in his LA CRITIQUE DU DARWINISM SOCIAL (Paris, 1910). This work is devoted to a relentless criticism of the

[59]Ibid., pp. 416ff, 330-355. [60]Ibid., pp. 424ff, 444-5, 447ff, 452.

[61]Ibid., pp. 455ff.

[62]Ibid., pp. 481ff, 485-6, 498. Novicow makes the analysis of justice from this standpoint the subject of a detailed exposition in his work entitled LA JUSTICE ET L'EXPANSION DE LA VIE, Paris, 1905. This work is briefly summarised by Hecker, RUSSIAN SOCIOLOGY, pp. 277-84.

[63]Paris, 1894, an English translation of this work by Thomas Seltzer appeared N.Y., 1911. The work is reviewed by E. V. D. Robinson, AMERICAN JOURNAL OF SOCIOLOGY, November, 1898, pp. 408-10.

theory of group struggle on a physical basis as the chief motive power in social progress. Spencer and Renan are criticised to a certain extent but Ward and Ratzenhofer receive the brunt of the attack.[84] Aside from the large element of criticism of individual systems of sociology the work is devoted in the first place to an analysis of the errors of the sociologists in interpretating biological processes, and the logical confusion involved in the direct application of biological formulæ to social processes. The latter portion of the work considers the erroneous doctrines which are a result of the elaboration of these systems of pseudo-Darwinian sociology. While Novicow's criticism is as one-sided as the theories of his opponents, and neither school shows an assidious application to the study of the latest researches in anthropology and ethnology, no one should attempt to defend the doctrines of the Gumplowicz–Ratzenhofer–Oppenheimer–Ward school without first having considered the objections so skilfully marshalled by Novicow. Particularly satisfactory is Novicow's attack upon what he designates with a considerable degree of accuracy as " anthropological romances," namely, the doctrines that primitive groups are inherently hostile to one another, that social evolution is the automatic result of physical conflict in society, that industry began in slavery, and that the state originated exclusively through the wars of primitive tribal groups.

NOVICOW'S last work, MÉCANISME ET LIMITES DE L'ASSOCIATION HUMAINE (Paris, 1912), is an elaboration of his oft-repeated doctrine that there is no logical or practical limit to the possible extent of human association. He shows that society is becoming in every aspect, except that of legal relations, a single unified human association, and carries further his demonstration of the erroneous nature of the objections offered to the feasibility of international federation. In particular he stresses the influence of commerce and exchange on the origin of law and the state.[85]

WHILE Novicow's violent opposition to militarism and his adherence to certain fundamental theories of society have made his work rather that of an advocate than a product of a purely objective method of procedure, his influence has been on the whole most beneficial. When the history of sociology is finally written there can be little doubt that Novicow will be accorded the chief place among the opponents of that grotesque body of sociological theory centering around the conception that social progress is effected primarily by an exertion of brute force against one's neighbour. His contributions are scarcely rivalled in this respect by Alexander Sutherland's elaborate work on THE ORIGIN AND GROWTH OF THE MORAL INSTINCT.

[84] Gumplowicz, the most flagrant of the offenders in this respect, is for some reason passed over in silence.

[85] There is an English translation of this work in the AMERICAN JOURNAL OF SOCIOLOGY, November, 1917.

CIVILISATION AND THE SAVAGERY MYTH: by B. J. del Andrade and H. N. D. La Touche.

AN axiom, we used to be told, is a self-evident truth so obvious as to be incapable of proof. In the realm of physics the relativity theory has dealt a death-blow to ideas of this nature; and the investigations of modern psychologists confirm the humble or base origins of some of our most fondly cherished beliefs. As is natural, therefore, few will accept their conclusions, for the peculiar repugnance of civilised people to scientific investigation that involves the facing of disagreeable facts (especially when offensive to personal or national prejudices) is as characteristic as the eagerness with which they will intoxicate themselves with ideas, however fantastic, which harmonise with their own self-flattering superstitions.

IT would be hard to think of a belief more deeply rooted than that which may be briefly described as the "Savagery Myth"; for it seems that the more "civilised" we become, the more limpet-like is our attachment to the conviction that it is only the existing institutions of civilised society that preserve us from a "relapse into savagery"; hence the illusion that but for the repressions and artificialities of our ordinary life we should all inevitably "descend into barbarism." A symptom of this superstition is the chronic opposition to a thorough-going application of evolutionary principles to sociology. An obsession of this kind is invariably accompanied by lurid fantasies which increase the difficulty of demonstrating the falsity and absurdity of the ideas upon which it is based. The current notion that civilisation tends to subjugate the animal side of our nature may be partly true; but it is also true that, on the contrary, so far from *sublimating* our primitive passions, civilised modes of life as currently lived tend to *intensify* those instincts which they are supposed to repress.

FIRST of all it is necessary to be quite clear what the word "savagery" connotes to the civilised mind. The common conception of savage life represents it as a drama of unbridled lust, horrible cruelty, and bloody inter-tribal conflict. Who has not heard of the savage Patagonian who dashed his child upon the rocks because he did not gather enough mussels for the family meal? In the nursery, when children give way to fits of violence they are told not to behave like little savages—the wife implores her husband to be a "white man," and the "wild men" of the political world are notorious.

THE testimony of impartial observers who have come into intimate contact with family life of primitive tribes contradicts these beliefs. For example, V. Stefansson* remarks with reference to the Eskimos :—

*In his book, MY LIFE WITH THE ESKIMOS.

"THEY are people among whom you might possibly have enemies and among whom you were certain to make friends; people very much like you and me, but with the social virtues developed rather more highly than they have been among our own race . . . . Under their communistic system of living the Eskimos have developed the social virtues to a considerably higher degree than we have; they are therefore people easy to live with, and one readily makes friends among them."

AMONG the American Indians and the Eskimos, violent treatment of a child is not only regarded with instinctive abhorrence but is forbidden by strong taboos; for to them the idea of punishing a child is ridiculous. Such a habit as the consuming of raw fish by a woman in a condition of semi-nudity we should, if observed amongst savages, stigmatise as strangely bizarre: yet the spectacle of a partially clothed woman in "high society" eating oysters provokes no invidious comparisons.

ONE of the most general misconceptions is that in backward societies the sexual instinct is abnormally developed—that the individual is in a state of chronic sexual excitement and suffers no restraint, internal or external, to the gratification of his passions. This appears to have no foundation in fact. Iwan Bloch in his well-known work SEXUAL LIFE OF OUR TIME, states that civilised man has the unique capacity for "making love every day in the year"—a condition shared only by a few animals such as the dog, domesticated and debased by inbreeding. The Eskimos, the Todas of India, and many other tribes have a specific annual mating season in common with the majority of highly evolved animal forms; a series of intricate ceremonies regulates every activity, social, religious and sexual, of the Australian aboriginal and the native of Papua. Irrefragable laws of procedure are laid down for the choosing and wooing of a mate and of regulating the times of approach; these laws are of such stringency that their infringement by adultery or tabooed unions entails the capital penalty. The strictest monogamy is the general rule among the natives of Australia, America, the South Sea Islands, and the Arctic—so long as they remain immune from white influence; both in Asia and Africa we find isolated instances of polygamy due to the influence of Muhammadanism. It is too commonly supposed that polygamy, polyandry, and the like are barbarous institutions, that monogamy can hardly be expected of savages who have no self-control—in short, that the joys of domesticity, the purity of the home, the sanctity of marriage, are the exclusive prerogatives of more advanced societies. Now monogamy is a very ancient institution, and among savages in particular has reached a high degree of perfection which with us too often exists only as an unrealised ideal; only when modified by the process of civilisation, are prostitution, divorce, infidelity and similar abuses its recognised accompaniments. Whatever means of regulating and

sanctifying the sex relationship more developed communities adopt —whether it is Muhammadan polygamy or Christian monogamy that prevails—they have never succeeded in preventing prostitution with its attendant evils which, like so many abuses, are the peculiar product of the increased complexity of civilised intercourse. It would seem, then, that we are justified in insisting upon the fact that the sexual instinct among savages is altogether less highly stimulated than with us. The simple courtship ceremonies and dances of the young Polynesian, with his painted body and feathered headdress afford no parallel to the infinite manifestations and ramifications of the sex appeal in our big cities.

BUT there is no doubt that it is the combative, warlike, and pugnacious propensity—the blood-lust—which is generally imagined to be the most fundamental characteristic of primitive savagery as a whole. This myth is of the utmost significance ; nowadays it is so widespread as to amount almost to a world-obsession, intensified as it is by the acute paranoia of modern states and the competitive accumulation of armaments.

THIS neurosis of urbanised communities, in its present form, is partly a result of the war frenzy and of the ideas sedulously disseminated during the war by the various belligerent governments employing experts in intensive propaganda, whose duty it was to keep the war-passion at boiling point by representing the enemy as guilty of the most " barbarous atrocities " and unspeakable crimes against civilisation ; and by resorting to fabrications calculated to inflame the minds of their peoples to the highest pitch of passionate indignation. Yet upheavals such as the last war should in the long run tend to disillusion the popular mind as to contemporary civilisation being the highest pinnacle of human evolution yet attained. For modern war as recently exemplified and as indicated in the highly organised technique of scientific mass-destruction, taxes the capacities of civilised man, even with his greatly increased powers of resistance and adaptability, to the utmost limits of endurance.

THOSE States in the war who possessed colonial dependencies were ready to make use of the very savages to whom they considered themselves so superior ; France had her Senegalese and Annamites ; England her negroes ; Germany her Africans and Papuans ; America her black conscripts and Red Indians. Many of us have cause to remember their behaviour on the various fronts. Even in Africa the fighting negroes sickened and died ; and the heathen Senegalese proved ill suited for the grim tasks set them by their European masters. Of all the heterogeneous coloured races who were involved in the conflict, the Japanese in the East and the Chinese in France, both self-governing oriental peoples, were alone distinguished for their

ability to endure the rigours of civilised warfare. But the rest, in various ways and on various occasions, when called upon to justify their reputation, failed to pass the acid test. Even the ferocious and blood-thirsty instincts which the white man is so ready to attribute to them (witness the denunciation evoked in Germany by the employment of Senegalese troops by France both before and since the armistice) were revolted by the dreadful reality. Instead of finding in modern war a natural outlet for their alleged propensities, they were paralysed by its incessant frightfulness; nor were they very greatly impressed by the "humanity" of modern methods. War being by its very nature inhumane, it is illogical to suppose one method of killing to be any more, or less, "civilised" than another. The ruthlessness of a machine-gun attack, the terrible wounds inflicted by shrapnel, the ghastly effects of poison gas and shell-shock, are forgotten by the earnest humanitarian who would unhesitatingly condemn blunt-nosed bullets and saw-toothed bayonets, which he unconsciously places in the same category as the "poisoned arrow" of the simple, unsophisticated savage who prefers to kill his enemy outright.

IT may be surmised that policy rather than ethics lies at the root of the matter; for are not such acts as the sinking of merchantmen and hospital ships, the violation of international conventions, and the shooting down of defenceless civilians, condemned less as dishonourable than as inexpedient? The organisation of medical services for the wounded and of a highly efficient food supply to whole armies owed its inception less to the motive of humanity than to plain necessity; without such ameliorative devices modern war would be impracticable.

POPULAR ideas about savage warfare bear very little relation to the observed realities; war between tribesmen usually amounts to little more than a vendetta for personal injury or insult or breaches of etiquette which the community has undertaken to vindicate. Peace is declared as soon as adequate satisfaction has been obtained. After an engagement, the wounded savage is taken home as a rule, and his injuries are attended to; but he does not fight again. It is left to us with our more enlightened practices and knowledge of surgery to patch men up so that they may play their part once more in the protracted campaign, which has nothing in common with the sporadic outbursts of inter-tribal violence. Cases are on record of wars between certain central African tribes in which the total casualties, in killed, could have been numbered on the fingers of one hand. Amongst peoples in an early stage of development, the art of making war is but one of the many ceremonial activities of which their lives are composed. As societies develop, war becomes less and less of a game and more a grim reality; but we are only just beginning to realise the truth of the proverb, "All's fair in love and war."

IT is chiefly when primitive peoples come into contact with enterprising colonisers, whose interests are diametrically opposed to those of the aboriginals, that the differences between their respective methods of warfare are most conspicuous. A good example of this is afforded by the history of Tasmania between the years 1810 and 1834; this is a chapter in the story of colonial expansion that is not very generally known. Children were stolen, women were violated, and shooting the natives for sport was also practised. Sometimes the natives indulged in reprisals against these civilised pastimes, but this merely served to hasten their ultimate fate: lines of settlers were formed into cordons, "battues" of blacks were arranged, men, women and children were indiscriminately shot down, and rewards were offered for every tribesman captured. After many ineffective protests by various humanitarian governors, who were quite powerless against the general feeling of the settlers, the native population of the island, originally estimated at over 200,000, was reduced to a few hundreds. These were transported to Australia, moved into Flinders Island, and eventually re-settled on a reservation in Tasmania. Nor was this all. The miserable remnant, losing all interest in life, steadily degenerated: their numbers decreased alarmingly and what children there were died young. The last survivor, an old woman, died in 1876. Thus a whole race vanished from their home in about sixty years. Such are the results of a war of extermination prosecuted in the interests of white civilisation, which thereby proved its effectiveness in stamping out barbarism.

BEFORE concluding, it is perhaps necessary to deal with a possible objection that the ideas which we have been discussing refer rather to the probable behaviour of civilised people were their customary inhibitions removed and their animal instincts allowed freeplay; but to imply that barbarous savages (of all people) are in this imaginary condition is a libel on barbarism: it is "savagery" that we are attempting to vindicate and the objection is therefore irrelevant. W. J. Perry in his work, THE GROWTH OF CIVILISATION, devoted a whole chapter to this question. He says:—

". . . . . I wish to urge that warfare in the sense of organised violent behaviour between communities is not an essential feature of human society. I claim that it grew up along with the class state in consequence of the development of certain social institutions, particularly the class-system. . . . What do we know about man's violent behaviour? It is too commonly assumed that violent behaviour is 'natural' to men, in that they will infallibly exhibit it, to a greater or less degree, in their ordinary daily intercourse unless restraining influences are at work. The notion of a community where any sort of violence was practically unknown would sound absurd to most of us. We are apt to think that civilisation has tamed the 'savage,' that it has imposed restraints on his violent tendencies, without enquiring whether this really is the case. I am convinced that this is one of the most profound mistakes that can be made, and that until this error is eliminated from current thought there is little hope for the solution of the greatest problem that

confronts us as civilised men and women, namely, the elimination of violence from the relations between States, and indeed from all human relationships. It is certainly true that the relations between States have been violent for very many centuries in Europe; and from this men have argued that war must always be, unless some means are devised of restraining the 'pugnacious tendencies' of men. Suppose it were to be suggested that, far from civilisation having tamed the savage, it has made man into a 'savage,' into a being who has learned modes of violent conduct entirely unknown to his forerunners. Suppose it be suggested that as civilisation has developed from its most primitive stages mankind has been educated in cruelty as well as in other ways. An argument such as this, which seems to turn thought upside down, to reverse our current conceptions of the meaning of what we term 'civilisation,' will have to be supported by many facts if it is to gain any hearing. Yet I submit that this contention is sound and that all we know of history goes to support it."

PERHAPS there will come a time when men will regard the taking of human life with as much instinctive abhorrence as they now entertain for those who eat human flesh. One thing we venture to predict: no such consummation is likely so long as the contemporary civilisation of the Occident in its present form endures. Personally we would more hopefully preach Vegetarianism to cannibals, or Socialism to the idle rich, than Pacifism to " civilised " people.

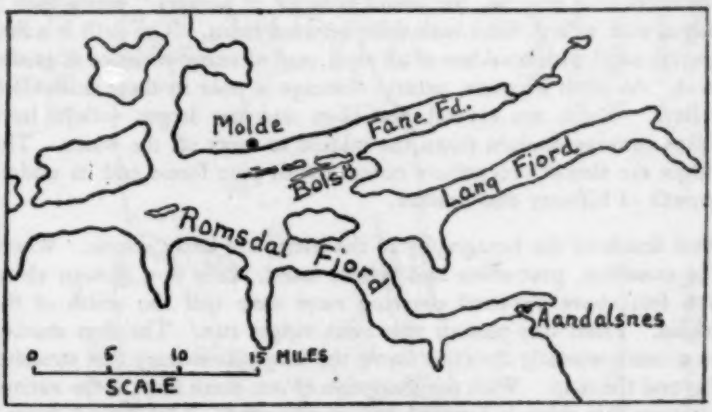
B. J. DEL ANDRADE.

H. N. D. LA TOUCHE.

THE ISLAND OF BOLSÖ: A STUDY OF NORWEGIAN LIFE:*

by B. T. Hebert.

THE well-known Romsdal fjord, after maintaining a normal width for some 15 miles seawards from Aandalsnes, opens out into a broad sheet of water on the north side of which lies the little town of Molde. Hence from Molde one looks southwards across 8 or 10 miles of water to the inland plateau and its bordering peaks. But the view over the water is partially barred by long low reefs of rock rising only a few feet above sea-level. These reefs if followed up eastwards increase in width and height to form a considerable island. It is this island, known as Bolsö, about 2½ miles long, not counting a long peninsula attached to it, and ¾ of a mile broad, that forms the subject of this paper.



Sketch-Map to show the position of Bolsö Island.

THE reefs, the island, and the mainland beyond it, prolong the same straight line with remarkable exactness, and as the sketch-map of the fjord shows, the Fane fjord and the Lang fjord are parallel. Other features along the coast, including the Trondhjem fjord, show the same rectangular arrangement. We are now, however, only concerned with Bolsö island, and there the physical structure could be easily observed. It is a series of straight ridges running in a direction E. by N. to W. by S., not quite parallel to the longest axis of the island. The southern ridge continues for another 2 miles beyond the main mass of the island, keeping the same direction, and forming a long

*Most of the information and ideas contained in this article were supplied by various members of a party, organised by Leplay House, which visited the island during the month of August this year. The latter half of the article is due in the main to suggestions made by Miss E. I. Daughtry, of Westcliff High School, Secretary of the Southend-on-Sea branch of the Geographical Association.

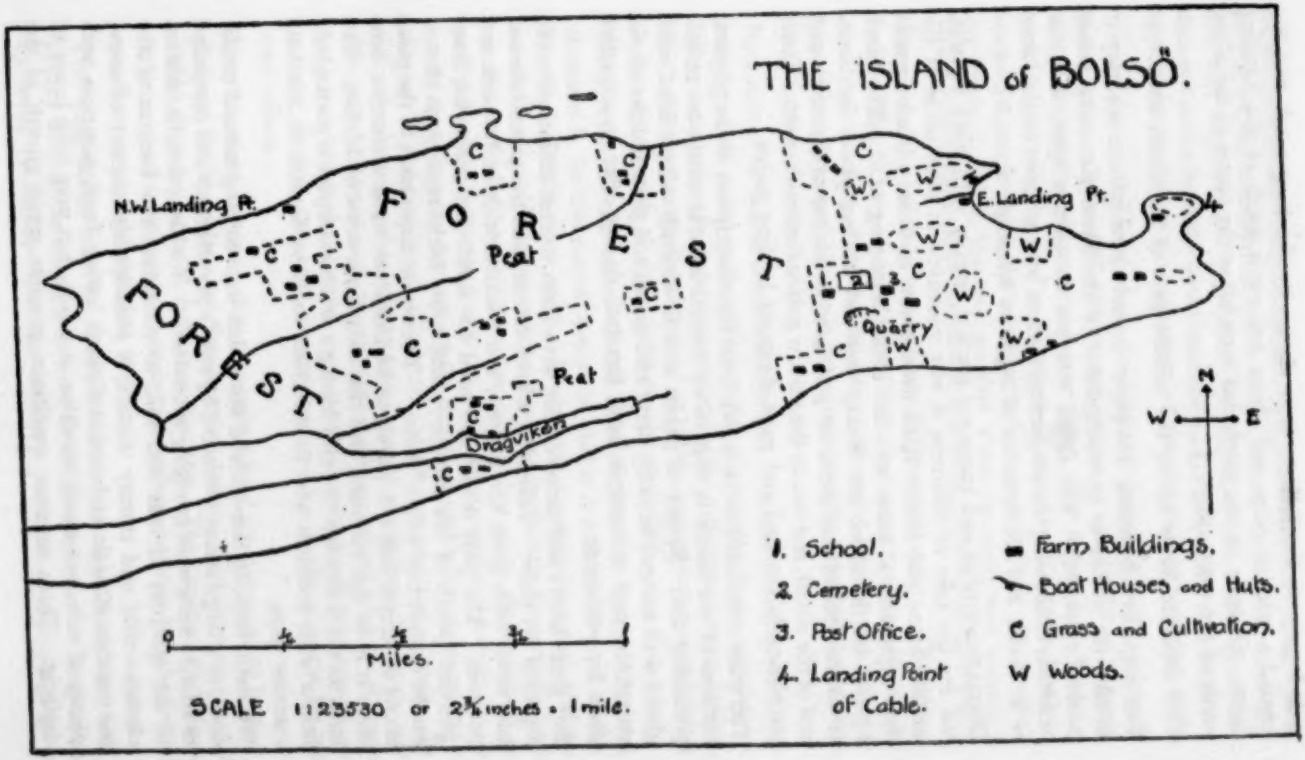
peninsula. The rock is a banded gneiss, showing no minor contortions but a very steep dip to the south, so steep that it is almost vertical. Thus the ridges are not anticlinal, but are upturned edges, and these edges run very straight, the harder portions of the rock standing up as ridges, and the softer portions, more easily eroded, forming valleys. The whole southern side of the Fane fjord is a broken edge of this type.

WHERE rock is exposed on the island, that is principally on the shore, it is of a whale-back shape, smoothed over by the intense glaciation of the Ice Age. Striations on the rock, though not very clear, seemed to indicate a movement of the ice from south to north across the island. If that is right the ice must have forced its way across the " edges," filling the valleys with drift and smoothing the ridges to the whale-back form.

HOWEVER that may be, the island consists of parallel " whale-back " ridges with valleys filled with drift between them. The drift is a fine greyish sand with boulders of all sizes, and of many varieties of gneiss in it. As often happens, natural drainage is poor in these drift-filled valleys. There are several peat-bogs and the larger valleys have dykes running straight down the middle to carry off the water. The ridges are almost everywhere covered with pine forest and its under-growth of bilberry and heather.

THE details of the topography of the island are fairly simple. Where the cemetery, post-office and school stand, there is a plateau about 100 feet above sea-level covering more than half the width of the island. From this plateau two main ridges run. The first starting in a south-westerly direction forms the long promontory that stretches beyond the map. With the exception of one small farm at the narrow isthmus this ridge is forested and uninhabited. The second, from a point north of the cemetery runs westwards, passing north of the cultivated patch in the centre of the island, and thence slightly bending southwards separates the two valleys where dykes are marked running down to the south-west coast. The higher portions of these ridges reach a height estimated at 150 feet above sea-level. There are several minor ridges running parallel to these which need not be considered in detail.

ONE might expect to find grass and cultivation in the drift-filled valleys and forest on the ridges, but this is only partially true. At the western end and east of the centre forest stretches right across the island. East of the school, that is for a length of nearly a mile, there is a considerable expanse of grass and cultivation, with isolated woods. It is only in the northern half of this area that the woods are definitely on ridges. Further west from the N.W. Landing Point to Dragviken most of the ground is made use of, but here the cultivated parts do


THE ISLAND of BOLSÖ.
N.W Landing Pt.
E. Landing Pt.
FOREST
Peat
FOREST
Peat
Quarry
Draguikets
N
W
E
0 ¼ ½ ¾ 1
Miles.
SCALE 1:23530 or 2¾ inches = 1 mile.
1. School.
2. Cemetery.
3. Post Office.
4. Landing Point of Cable.
Farm Buildings.
Boat Houses and Huts.
C Grass and Cultivation.
W Woods.

keep largely to the valleys, as is shown by the long patch that lies beyond a wooded ridge and about 100 yards south of the Landing Point. Or again by the patch that runs out to the centre of the island south of the main ridge.

Two separate farms lie on the middle part of the north coast.

THE map that illustrates this paper cannot claim minute accuracy in detail: its outline is an enlargement of the Norwegian survey map (scale 1 : 200,000). The detail was put in on the spot, with the intention of showing the proportion of farm land to forest on the island as a whole, and the number of separate holdings, about 15 in all.

DWELLING-HOUSES and barns are marked equally with black squares, but for the sake of clearness it was necessary to omit some of the smaller barns and huts. Each little group of 2 or 3 black squares thus represents a house and the barns belonging to it. The black squares on the shore are fishing-huts and landing places for boats. It will be noticed that there are 3 of these in the bay at the north-east end of the island, and two in the narrow gulf in the south-west. These are obviously the best and most sheltered landing points.

THE main conclusion to be drawn from this description of the physical features of the island is that in its natural state it would be an unpromising site. Ridges of gneiss and ill-drained valleys filled with glacial drift covered in many parts with marsh and peat, and the whole, except the peat and marsh land, forested, do not offer an attractive place for settlement.

BUT great labour and perseverance have made a great difference in the aspect of the place. Valleys have been drained and the ground cleared and sown with grass for pasture, and planted with barley, oats and potatoes. The peat is cut and used for fuel: the gneiss has been quarried (south of the cemetery) and splits fairly readily, so that it can be shaped into cubic "setts." The whole impression of the place is one of simple but not primitive life, and one must remember how close it is to the mainland and the busy little town of Molde. The farm on the south-western gulf having a southern aspect is particularly bright with orchards and flowers that seem to flourish in the long summer days.

WE have, then, in Bolsö island somewhat unpromising natural conditions, to a large extent overcome by man's perseverance and compelled to afford a somewhat grudging subsistence. We have, also, in addition to the qualities of rock and soil, to remember the features of the climate—wild and stormy winters, a considerable amount of snow, but on this Atlantic seaboard not much lasting frost, summers with plenty of rain, not much sunshine as a rule, but very long hours of daylight. These summer conditions promote rapid growth of the

hardier cereals and root crops, and certain possibilities of fruit growing. In August the uncultivated parts of the island abound in bilberries and wild raspberries. The island lies, moreover, in a wide fjord and does not suffer from the usual handicap to fjord farming, that is the late appearance and early disappearance of the sun behind towering cliffs.

UNDER these conditions, then, a rotation is practised—oats, potatoes, barley, grass. Some difficulty is experienced, as usual in West Norway, in combating the effects of summer rain. Hay is dried on fences—wire slung on light posts, and sheaves of oats were also seen hung on posts to dry. Pasture, limited in extent, is made full use of. Animals are tethered, and it was noticed that when the stake was moved, it was moved quite a short distance in a thoroughly economical manner.

THE size of the holdings was typical of Western Norway. There were on the island three or four larger ones, but even they would not be over 3 or 4 acres, while the smaller ones would be one acre or even less. It is a system of peasant proprietorship, the property descending from father to eldest son.

PEAT is used as well as birch wood for fuel : it is not of very great depth but appeared to be quite sufficient for the needs of the population. Other occupations include timber-cutting for individual needs, fishing, which provides a surplus to be sold at Molde, and in some cases driving or transport work of some kind on the mainland.

WHAT, then, is the effect of this environment on human life and character ? In the normal course of events it is a life of hard work : the whole family must work. During the summer the work will be on the family holding, in winter the men frequently leave the island on distant fishing expeditions, sometimes they go to the mainland as paid labourers in forestry and the occupations connected with it. It seems that they are normally fully occupied, and while they are away the rest of the family must look after the house and the animals. In fact, man is engaged in a busy and constant struggle with nature, and this seems to produce a strong individualism. Each farmer—it must be remembered that a farm here means a very small holding—is, as it were, face to face with nature, and must win the struggle by his own efforts.

FURTHERMORE, it seems that this rather hard life leaves little leisure, perhaps litttle inclination for peasant crafts. The houses on the island show no trace of cottage industries. The present inhabitants do not appear to spin, weave or do embroidery, or make lace, and even wood-carving was somewhat rare.

TWO suggestions may be brought forward in connection with this. It may be that the island is so near to civilisation—two or three miles by water to Molde—that the ordinary products of the shops have

taken the place of the cottage-made article. To a people accustomed to travel on the water to an extent that a landsman finds rather hard to realise at first, those two or three miles are very little obstacle. Motor-boats are now almost universal both for fishing and for local transport on the fjords, and at least three of them were seen to be owned by the islanders. To go to market in Molde is then distinctly easier for the Bolsö islander than for the average farmer to go to his country town. Hence peasant crafts may have been destroyed by shop-products. Embroidery, especially that of the Norwegian woman's national costume, seems to be a thing still valued by families, but valued rather as a relic of the past, and shown sometimes as a family treasure. It is of course also shown to the tourist by dressing hotel waitresses in it, but that is quite artificial. Much interest is shown by the Norwegians in these relics of the past, and even a small town like Molde has its own " open-air " museum, where costume, wood-carving, the making of household utensils, and even the house itself is illustrated full size. At Molde there are two " houses " in the public park fitted in this way to illustrate crafts which have become a thing of the past.

But the second suggestion is perhaps the more interesting one. Peasant craft exists still in some parts of Norway, and is treasured as a thing of the past in most places, but it is probably true to say that there is not really very much of it. It may be treasured all the more for its scarcity. It does seem that further south in Europe, where nature is rather more kindly, peasant crafts flourish in mountain districts and remote places. The suggestion, then, is that the rather severe conditions of Norwegian life as outlined above offer little encouragement to peasant craft, and, to take a rather wider view, that the climate, soil and scenery of Norway have produced a fine vigorous self-sufficient type of man, but have not fostered the growth of the arts. What great art in literature, painting, or architecture has come from Norway ? The names of Ibsen, Hamsun, Böjer and others, call to the mind a grim and rather terrible form of the literary art, and surely this is a reflection of the grim and rather terrible scenery and climate of Norway. Contrast for a moment Italy and Greece. Surely their art is a reflection of the beauty and the fruitfulness of their world.

So the suggestion is that this broad view of the strength or weakness of the people of Norway is illustrated on a small scale by the island of Bolsö, by the islanders winning their subsistence with labour and perseverance and practising crafts, or one may say " arts," hardly at all.

So far an important element in the life of the islanders has been omitted. The holding descends from the father to the eldest son ; younger sons therefore will frequently leave it. Emigration to North

America, seafaring, and town life absorb considerable numbers of them. It is well known that Norwegians are excellent colonists and fine seamen, but their town life does not perhaps show highly developed national characteristics. The central part of Oslo owes its existence to a Danish king. Bergen drew much of its historic importance from the Hanseatic league. The Norwegian seems not to have an advanced civic sense.

So much for the peasant proprietors and the younger sons: there remain two points that are marked on the accompanying map. At the eastern end of the island is the landing point of an electric cable. The electricity is distributed over the island by overhead wires and is used generally for lighting, sometimes for heating kettles. Generated at a water-power station near the head of the Fane Fjord, it is cheap—it was found on enquiry that a householder using about ten lamps paid 40 kronen per annum, also that the electric supply is State-owned and the charge is made according to the number of lamps used. Meters did not seem to be used in the island. The point about electricity that really concerns us is that it is used for lighting only and sometimes for heating, but not for power. There were no saws and no farm machinery driven by it, and the system of payment appears to disregard the probability of such a thing. It is all a part of the system. The individual small-holder working independently cannot employ electric machinery. Farming on progressive lines could only be done by uniting the whole island into one farm. This might be economically a sound plan, but it is quite certainly contrary to the traditions of the people, and there can be little doubt the welfare of the people would suffer under it. Let us hope the peasant proprietor will remain.

THE other point on the map is that there is a cemetery and no church. This is a historical question. Formerly there was a church and it was the principal church of the district. Now the church is on the mainland opposite, and the island is an appendage to it. Here is a difficult problem. Why should the island start by being a centre for the life of the fjord and end by being an appendage to it? Perhaps in the days when there were no metalled roads and no steamers, an island would be a natural centre—the most easily reached place in the fjord. To-day roads have been made, not very many it is true, but roads of local importance, for the most part giving a place on the side of a fjord an advantage. Fjord steamers, too, have become an essential part of the system of communication, and naturally their ports of call are at places which have roads and especially at the heads of fjords or where a large valley runs into a fjord as at Aandalsnes. So a place which has no regular service of fjord steamers is now in comparative isolation. Bolsö declines and Molde grows.

COMMUNICATIONS.

Sociology in Scandinavia.

That admirable periodical, the Scandinavian Review, printed wholly in English, reproduces in its third and fourth numbers of Vol. III. the open letter addressed by Mr. Farquharson to its Editor, Dr. Reymert, which appeared in the Sociological Review, Vol. XVI., No. 4: and at the same time, prints an open editorial letter addressed to Mr. Farquharson in reply. We quote below the chief passages from Dr. Reymert's letter. He writes:

"I should like to thank you most cordially for the kind interest you have taken in the Scandinavian Scientific Review. Also we appreciate greatly the many valuable suggestions for the development of our editorial programme. We understand that you would like Biology to be included as a separate branch. Nothing is more reasonable, and as you know, many phases of this nowadays so elaborate a science are necessary for Psychology.

"As regards what might be called pure Psychology we have always before us the fundamental problems of mind, body, and environment

"For all branches of ontogenetic and phylogenetic psychology the close interdependence of biology and psychology are readily apparent.

"You state that: 'The active and progressive study of human psychology cannot be carried on to the best advantage out of relation to the active and progressive study of all forms of the reactions of human creatures in their environment.'

"From the point of view of Sociology this may seem a natural demand on psychology. From the point of view of a rather young science like Experimental Psychology this is rather a hard bill to fill and you will, I am afraid, have to excuse us when for a considerable time yet to come, we shall have to patiently busy ourselves mainly with the fundamentals of our science, whilst within the narrow confines of our laboratories observations will be made upon the intricate working of shifting consciousness in a tense experimental environment.

"Of course, the great demands having been put to psychology from various fields to-day (like to 'philosophy' or 'medicine' in olden days) have already brought about a perfectly legitimate 'Applied psychology'—from a practical point of view, which is rendering service in several practical directions (in Education, Industry, &c., &c.) and the impatience of (excuse me!) sociologists has also introduced a 'Social psychology.'"

"In this way we might continue to enumerate problems and points of contact of Biology and Psychology. As Psychology is one of the themes of the Scandinavian Scientific Review, problems on the border line between Biology and Psychology are always welcome contributions.

"I also quite agree with you in that Biology as a science in and by itself should be included in our publication, and if economy will permit we should then like to do this in the form of a separate monograph series, coming out under the guidance of a noted Scandinavian authority.

"In regard to your second suggestion which concerns our programme of Philosophy, I am fully in accord with you that modern philosophy should be based upon facts brought about by the separate branches of science, and such a trend seems to be apparent among philosophers of to-day. Thus

I am recently informed that we shall soon witness here in Europe the appearance of a new international journal for 'Exact Philosophy.' I do believe, however, that problems within the history of human thought should also have their place in our periodical. The programme here will surely be well attended to by the various national advisers in this subject.

" In regard to your last suggestoin, that Sociology should have some place in our Review, I should like to refer you to Dr. Keilhau's letter below. Personally, I should like to mention that whatever might be included in the now growing branch of psychology, 'Social Psychology,' will naturally be within the present scope of the programme of the Review."

My dear Dr. Reymert,

" As I told you during our interesting conversation, I have read the letter from Mr. Farquharson concerning a future co-operation between English and Nordic sociologists, and quite agree with you in your idea to try to do this through an extension of the themes of the Scandinavian Scientific Review.

" According to my promise, I will try to develop my views of the principles for such an extension.

" The Review was originally intended to be a psychological publication, —the word psychological here taken in its widest sense. This fact forms the natural basis for any discussion about an extension of the subjects. Psychology must be kept as the central theme. What should be added are such sciences which must keep in close connection with psychology, and which partly are dependent upon the results obtained through psychological investigations.

" In the first place we have here the more general philosophy. I am aware that some articles on great problems in general philosophy have been published in the Review. Thus already your first issue contained a treatise on the bearings of the theory of relativity upon epistemology. I should think that in Professor Harald Schjelderup, who has already contributed very much to the Review, you will have the very best co-operation in the branch of philosophy.

" Next to philosophy comes biology. Now the field covered by this science is a very wide one. You will have to make a selection among biological subjects. Particularly fit for treatment in the Review seems to be the theory of heredity, and much that is related to it I think, the theoretical basis for a future rational policy will be found in a combination between the principles of eugenics and those of psychotechnics. Up to now the adherents to both these practical and political branches of science have been one-sided in their whole argumentation. A co-operation between them is most desirable. In the Review they would get a forum to keep in touch with each other. I should also think that it would be of interest to the American readers to get an opportunity of keeping posted on the ideas of the biologists belonging to that part of the Nordic race which remains in its original home. I should think that Professor W. Johannsen in Copenhagen would be the best Scandinavian representative for biology.

" As for sociology itself you will have to face the fact that this science is not well organised in the Scandinavian countries. I really doubt whether Northern scientists, for the present, will have much to add to the results obtained by Anglo-Saxon and Continental sociologists. I should, therefore, propose that instead of sociology you include economics. As you know, the

Scandinavian countries have now economists of high international reputation; it is sufficient to mention Wicksell, Cassel, and Birck. It must also be remembered that modern economists try to emancipate that science from those series of abstractions which once upon a time made political economy 'a dismal science.' You have been kind enough to ask me if I would be willing to undertake the editing of an economic monograph series for the REVIEW—if it was resolved to include those subjects in the programme. It is naturally very difficult to give a definite answer at this stage, but I wish to add that I am most interested in the realisation of the idea and that I will try to do what I can in order to help you.

"Yours sincerely,

"WILHELM KEILHAU."

A FOREST CAMP SCHOOL.

THE educational and sociological ideas of Mr. George Sandeman have been expressed in various papers in this REVIEW. A new endeavour to put these ideas to the test of practice is announced in the prospectus of a Forest Camp School opened by Mr. Sandeman this autumn near Lyndhurst, in the New Forest, Hampshire. Along with the teaching of all usual subjects and preparation for necessary examinations the new Camp School will combine detailed study of a large and interesting district, practice of a wide range of crafts, and the development of taste by means of literature, music, drama and other arts.

A SPECIAL feature of the School will be the daily study of the Forest and surrounding region and towns, between Southampton, Salisbury and Bournemouth, including geography, geology, weather, plant and animal life, history, human occupations, industries, economics, &c. In these excursions boys will be practised in surveying, mapping, map-reading, sketching, painting, verbal reports, written descriptions, photography and microscopy.

EVERY boy will be trained in crafts, including gardening (flowers, fruit, vegetables, poultry and bee-keeping), building, carpentry, smithwork, pottery, printing, spinning and weaving, plain cookery, boot-mending, &c. The School will make a point of training boys to speak and write with ease and confidence on subjects of interest. Above all, it will try to interest every boy in English literature, and to make him familiar with a large body of its works. Most boys can learn to play some orchestral instrument and all probably enjoy acting, and so a school theatre and a school band will be characteristic features of the curriculum. The prospectus concludes as follows:—"The health of the boys will be the first consideration; and we believe that by sound diet, by spending much of the time out of doors, by sufficient and regular allowance of sleep, and by filling every day with vivid interests, life at this School will be as healthy and happy as can be secured anywhere. We aim at a life like that of a camp, marked by great simplicity, freedom, alertness, and individual responsibility. We have never used punishments of any kind, believing them to be a mistake. The home of the School is a new building of the army hut type, put up for the purpose on a secluded woodland site." The address is Ashurst, near Lyndhurst Road Station, New Forest, Hampshire.

WE welcome this School as a further and well-designed example of the progress of educationists in preparation for social studies and regional-civic careers.

Emile Waxweiler Prize Essay.

The late Emile Waxweiler is remembered by sociologists in a double capacity. As a thinker and writer he held to and developed the organic theory of social evolution. But it was in his capacity of first Director of the Institut de Sociologie founded by Solvay in Brussels that he did his most notable work. He made that Institute the leading organisation of its kind for research. When the war broke out Waxweiler came as a refugee to London; and it was a heavy blow to the sociological movement when he was run over and killed in our darkened streets. His contribution to theory was well exemplified in a paper he read to the Sociological Society (of which he was always a good friend) several years before the war.

To preserve his memory there has been established an *Emile Waxweiler Endowment* for promoting sociological research, of the kind defined by him in the preface to his Archives Sociologiques. The income accruing from the fund will be employed to further scientific travels, investigations or researches in universities, libraries, archives, museums, &c., in Belgium or in foreign countries; to meet the cost of publications or scientific enterprises; to organise prize competitions and generally to encourage any kind of activity that would contribute to answer the purpose of the Endowment. The requests are to be submitted before the 1st day of October of every year. There is no restriction relating to age, sex or nationality.

News of the first competition prize (October, 1925) unfortunately did not reach us in time for mention in the July issue of the Review. The following is the subject-matter:—"To-day, ideas are not propagating only by way of their spontaneous diffusion: several kinds of organisations: governments, political parties, interests groups, applying elaborated techniques and among which the Press is not the least potent, try to spread definite ideas in order to bias public opinion. But in those very organisations the influence of leading personalities seems to remain prevalent. With regard to such phenomena, they request *a study dealing with the mechanism of the propagation of ideas in our contemporary societies*. Such study must be conducted in accordance with the aim of the Endowment as defined above." The prize to be awarded amounts to 3,000 francs. The crowned essay will be printed at the expense of the Endowment. Information about the Endowment can be obtained from the Secrétaire Perpétuel, Académie Royale de Belgique, Palais des Académies, Brussels.

Moves Towards Synthesis.

The recently formed British Institute of Philosophical Studies has issued a programme of lecture courses for the coming year. They include 20 lectures by Mr. Bertrand Russell on Problems of Philosophy; 20 lectures on Present Tendencies in Political Theory by Mr. Laski; 20 by Professor Pear on Psychology; 20 by Professor Leonard J. Russell on The Conception of Matter; 9 on Life and Mind by Professor James Johnstone; 6 by Dean Inge on The Philosophy of Religion; and 4 by Professor Lascelles Abercrombie on Aesthetics. Detailed information can be had from the Director, 88 Kingsway, W.C. 2.

With these endeavours towards synthesis from the side of philosophy may be compared the special course of Lectures arranged by the London Positivist Society, which start more definitely from the sides of science and history. An advertisement giving details of these courses will be found on the cover of the Review.

Sociological Year Book.

There has come from G. Braun, Karlsruhe, the first volume of a Sociological Year Book. The following is an extract from the Introduction to this first volume :—" The scientific view of the universe is in process of reconstruction. The historical division of specialised faculties cannot be any longer maintained. Many subjects such as the philosophy of history and the history of civilisation, the philosophy of law and political science are held back owing to the official faculty scheme. Through the bureaucratic direction of instruction in places of Higher Learning many problems which exceed the limits of specialisms are left to private people, dilettanti and outsiders to deal with. On this account the 'spirit of the times' in the second half of the 19th century was the creation of 'free' authors. The places of higher learning will regain their influence when they fulfil their vocation by paying more attention to these hitherto neglected fields of work, and win back that universal outlook which philosophy once possessed. The new direction of thought at which this universal outlook aims bears the name 'Sociology.' Philosophy has become for the most part a scholastic science of Logic and Psychology, its own proper problems have gone off into specialisms. We believe that history in religion and morals, in law and economics, make up a unity no longer to be understood in a transcendental spirit, as in the last great philosophic system, that of Hegel. We must seek the reality of this spirit in social processes and inspirations. 'Sociologism,' or the derivation and grounding of the mental sphere from and on social groupings has got separated from 'Historism' and is becoming methodological. There clearly emerges from this narrower province a science of sociology, which examines logical or psychological causes and laws, types and means, tendencies and relations, and orders its material within certain fixed limits which correspond exactly to the philosophic tendencies of the age." We shall hope later to give some account of the contents of this first volume.

Old Issues of the Sociological Review.

For some time past there has been a shortage of back numbers of the Sociological Review. There is a constant demand for complete sets of the Review from its commencement or for a certain year or period of years, and also for single back numbers. These requests unfortunately cannot always be met. It would be much appreciated if readers who chance to have spare copies of back numbers or who do not keep their sets for binding, would be willing to let us have them so that we may supply these orders. The issues of which we are in special need are :—

Vol.	I.	1908. All four numbers.
Vol.	II.	1909. All four numbers.
Vol.	III.	1910. October.
Vol.	IV.	1911. October.
Vol.	V.	1912. April and October.
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BOOK REVIEWS.

THE STUDY OF BEHAVIOURISM.

THE PHYSICAL FOUNDATIONS OF BEHAVIOUR: by C. M. Child. pp. xii.+330; 147 Figures. H. Holt & Co. New York, 1924.

THE NEUROLOGICAL FOUNDATIONS OF BEHAVIOUR: C. Judson Herrick. pp. xii.+334; 131 Figures. H. Holt & Co. New York, 1924.

LIVING organisms, said Hans Driesch in 1908, are to be regarded as objects moving in nature and reacting with other moving bodies. It is these complicated motions that we study where we investigate the behaviour of other animals: that is, the "habits" of the latter; their ways of protecting themselves, of finding food and shelter; their communities, social organisations, customs, their mode of reproduction, parental habits, and so on—all this with application to man as well as to the lower organisms.

BUT the observer is himself an object moving in nature which is conscious of its own activities. Feelings, volitions, pleasure and pain, &c., accompany his acts, and these conscious states he associates with a bodily organisation which is essentially the same as those of a great host of other animals. It seems "reasonable" to suppose that much the same feelings and volitions accompany the activities of animals that have much the same bodily organisation as we have, and the more nearly alike the organisations are the more similar we suppose the associated conscious states to be. Other men and women who behave as we do are therefore conscious in the same ways. The very existence of our social structures; the recognition that certain modes of behaviour are meritorious while others are to be deprecated, or perhaps punished; the mere fact that the two books which are noticed here were written in order that other people might read and discuss these, for instances, are evidences that in all these "bodies in motion" that we call men and women, there are also conscious states similar to those which we discover by introspection in ourselves and associate in with a certain physiological structure.

THE older books on psychology usually began with a short introductory account of the human nervous and sensory organs. How great is the difference in the treatment of the science may therefore be estimated when we compare these two very fine books with the psychological manuals of a generation ago. Here we have the modern bases of a "truly objective psychology"—in Driesch's words. Professor Child traces, throughout the animal kingdom, the "action-patterns," that is, the modes of bodily structure and functioning, behaviour in the wide sense. Behaviour is not merely what the older naturalists call the "habits" of animals, but all the activities concerned in individual development and in "biological integrations," that is, in the formation of associations—instinctive communities, gregarious groupings, societies and states. Professor Herrick, himself a distinguished neurologist, deals with the sensory and nervous mechanisms of man and the lower animals and traces out the development of the human brain as an instrument of integration of bodily activities. His book is the best thing of the kind that has yet been written, and its interest and value need not be restricted to psychologists for it is sure to be widely used by biologists, who are students of function, rather than psychologists.

THE general attitude in the cases of both books, is that of the mechanistic biologist: the very statement of the nature of behaviour, as given above,

indicates this. The living organism is a body moving in nature and in relation to its environment so that its motions are, without exception, responses to the motions of material bodies, or radiant energies, in that environment, or the motions of the things in the environment are responses to the motions of the acting organisms. Thus every activity of the animal or plant organism ought to be expressed by an energy-equation, and nothing more can possibly appear in this equation than just so much energy on one side and the other. So we are brought back to the old question of the physical meaning of consciousness: this is not energy. Just the same description of a system of bodies reacting with each other can be made of any purely physical changes that we can investigate—a heat-engine, for instance, and we are bound to recognise that there is a great difference between such a system and that which we recognise in the conscious animal reacting with the things in the environment. What *is* this difference? It does not appear in the two systems of energy-equations which (if our analysis were complete enough) would represent precisely the events that happen in both cases.

AND "uncritical commonsense" (which would, however, be "unscientific") suggests insistently that there *is* a difference. It suggests that the acting organism (one's own self, for instance) *wants*, or *wills*, or *hesitates*, or *deliberates*: it does not take much candid and resolute thinking to discover this. One cannot help feeling again and again that all the beautiful mechanisms which are described in these two books are, after all, the *ways* and *means* of doing what we desire, or elect to do. No less can one help feeling that it is just this desiring and electing and disliking and enjoying, rather than the means of doing the things desired, or willed or enjoyed, and avoiding the things disliked, that is the subject matter of psychology and, so far as we can see, it is just here that "behaviourism" is so very unsatisfying.

WHEREVER we seek to investigate this barren field in behaviouristic psychology we are, as Professor Herrick says, "constrained to invoke metaphysical principles," and that *is* a dreadful thing to do, "because it carries the discussion into realms where the biologist cannot follow," apart, of course, from being metaphysical, which is bad enough, in all conscience! One thinks about the principles of the modern physicist—the ether of space, for instance, which certainly is a metaphysical concept, but which has nevertheless taken physics into a region where the resolute spirits that have followed have been abundantly rewarded. But this is the only justification for invoking such principles in biology as entelechy, vital impetus, intuition. They must work out in practice and enable us to gain further knowledge, otherwise they are, as Professor Wilson, the veteran cytologist, has wittily said, like the vestal virgins of ancient Rome, dedicated to God and barren, on the other hand, the success of mechanistic biology has been conspicuous in showing *how* the organism does the things that enable it to hold its own against an environment which is, on the whole, inimical to life; our insistence on mechanistic explanations is successful because we ourselves are mechanisms. But the fact that the desire to explain what life *is*, rather than what it *does*, is just as insistent and all the triumphs of mechanistic biology have been unable to convince many biologists of every generation that the desire is foolish.

HOWEVER that may be, there is an extraordinary fascination in seeing how the living mechanism works. That fascination is experienced by the psychologist just as much as by the physiologist—hence the vogue of behaviourism. To those that feel it there can be no greater intellectual treat than the patient study of these two remarkably fine books, and they are to be unreservedly recommended.

J. J.

REFORMATORY REFORM: by Isaac G. Briggs. Longmans, Green and Co. 1924. (7s. 6d. net.)

ON the last page the author of this book says that his "Object is solely to stimulate public thought on the treatment of juvenile delinquents, a treatment which at present is a blot on our character." The book is well calculated to that end. The author begins with an apparently very candid account of his own experiences—how he drifted into delinquency and served a three years' sentence in a Reformatory School.

"CAN it be true?" will be the insistent question of the reader of this description of a Reformatory School as it was only some 12 or 13 years ago. Those of us who have had the task of enquiring into such matters know something of the difficulty of getting at the truth and of being certain that our own impressions, and our own reports, are accurate. Yet this story seems to bear its own evidence of sincerity and studied fairness. It is a tale of injustice and absurdity; though the author evidently managed to pick up some useful knowledge and training in the course of it.

THERE is one point that he drives home again and again, namely, that inspectors do not learn the truth. The point is important. So the following passage seems worth quoting (pp. 86-7):—

> HE saw the highly polished surface so laboriously prepared for him, and was well content. An attempt to find what was beneath would have failed, a fact that many penologists would do well to lay to heart. Still, he might have tried. If he had questioned us, individually or severally, publicly or privately, openly or after having promised to keep secret our names, he would have learned nothing of the conditions under which we lived. Had he been told, he would not have believed us, so he lost nothing. We should have eulogised the lovely school, and the loving Superintendent, and have wept with the utmost ease and copiousness at the thought of the terrible day when we must be thrust forth from so heavenly a haven. We knew which side our bread was buttered, and knew also that while an Inspector only lasts two days, a Superintendent lasts world without end. Amen.

BUT it is not only the inspectors who are debarred from learning the truth. The author himself, with all the knowledge his experience must have brought him as to what to look for and what questions to put, confesses (on p. 181), after what must have been an unusually thorough examination of the Institution at Borstal, "I feel that now I do not *know*, and *cannot* know Borstal. If I lived there as an officer I could not know it; only an inmate can *know* an institution; a prisoner, a prison." And on p. 227 we read that "governors are usually the last people to become acquainted with occurrences taking place under their eyes . . . The warder knows more than the Governor; the prisoner than the warder." Weighty words these, worthy to be borne in mind by those who rule prisons, institutions and departments or read prison reports, or reports of Royal Commissions and Departmental Committees.

WHILE one may credit the author's account of his own school it is difficult to believe that many Home Office schools are as bad now. One feels sure that some schools are better. One can hardly suppose, for instance, that a boy in his school, at the time he writes of, would have written home to his brother advising him to pinch something and get himself sent there, an

experience not unknown in other schools, if report is true. The author would probably concede as much; but he writes in his preface (p. xii):—

> THE author believes that men and systems at other schools do not vary greatly from those at the school he has sketched, a belief which gained strength from the detailed observations of a fellow University student, who had been an officer at a well-known and highly-praised reformatory school. He discussed the subject at great length with the author, being then, and now, ignorant that the author knew anything about such schools.

IN any case, as the character of a school obviously depends largely on the character of its Head, and as we cannot but suppose that many or most heads are better than "James Smith," we must suppose that many schools are better than "James Smith's" school, whatever judgment we may have to pass on the system. On the other hand, a system which permits of such a Superintendent as "James Smith" and the continuance in being of such a school as is here described can hardly be called a good system.

AFTER describing his own experiences, the author, in Part II., reviews "Other Preventive and Penal Methods," including Juvenile Courts (which he calls "Children's Courts"), Probation, Further Details of Reformatory and Industrial Schools, Borstal and the Borstal Association. The condemnation of the Reformatory and Industrial Schools is sweeping, and it is difficult to be sure how widely it applies. Apparently to the system in general, with a few possible exceptions. The "trades" supposed to be taught are represented as being "dead" trades badly taught. "The boys are also noted," we read on p. 136, "as following them on release in large numbers; that is, they are forced to work at them until their license expires, when they promptly leave." Statements like this are capable of being tested by facts; and it is important that they should be.

THE Borstal system, and the after-care work of the Borstal Association, are very favourably reviewed. There is a slight anachronism here. Borstal boys are no longer sent to Canterbury. Those whose licenses have been revoked are sent to Wormwood Scrubbs. The reception class for boys is now at Wandsworth, where they are carefully examined while their houses are visited.

PART III. is "A Consideration of the Problem of the Young Delinquent, with Suggestions." These latter are worthy of consideration. Take one with regard to Juvenile Courts. The author is very "down on" the stupid question so often put to young delinquents, "Why?" "Why did you do it?" As if any enlightenment could come from such a question under such circumstances! The suggestion made is that "a quiet questioning by the detective and the doctor would elicit facts directly or indirectly suggesting causes for the lapse. All this should be carefully completed ere the case is entered for trial, and a copy handed to the parents, so that they understand exactly how matters stand, and are prepared to explain or refute statements that seem to them misleading or wrong" (p. 198). One would prefer, perhaps, to substitute "probation officer" or "investigator" for "detective"; but the adoption of this plan might solve the question of preliminary investigation and report by the probation officer *before the Court has decided on the facts of the charge*. The handing of a copy of the report to the parents in good time should satisfy doubts as to fairness. The author advocates, on the same page, "a separate 'Children's Department' with offices of its own in a building well away from the Police Court" with its own special "detectives," not a nice word to connect with children's

affairs; and "one man only, a medico-jurist, trained in juvenile psychology and sociology, should sit, and attend to the case." Would it not be well if a competent woman were to sit with him?

WITH regard to the children and young people whom it is thought necessary to remove from their homes or guardians, the author divides them into three classes according to age of release. Those to be released under 12 he would have "boarded out in cottage homes or with chosen people"; those under 15 on release he would send to schools having the ordinary schooling "supplemented by work, preferably out-of-doors for health reasons"; and "the remaining 8,000 now in Reformatory and Borstal Institutions" he would put in real up-to-date vocational schools, each devoted to one industry or group of industries, including a "Gardening School," and, of course, farming, with a Commercial School for "the most intelligent boys" (Why so? and what about the most intelligent girls?); and this last "would form the Central Office of the whole organisation." He would have as much "character" training as possible in all these schools. He does not make it quite clear what he means by this, but makes a number of sensible remarks about moral training in various aspects. An important part of the scheme is an "Observation School," to which the youngsters are sent first for three months for medical and psychological examination, and "to get used to the peculiarities and discipline of Institution life," which last sounds rather a sinister object! After-care would be supervised from the Central Office (Commercial School). And—"The whole system would be under one central authority, which might usefully have sub-offices, with inspectors attached, in a number of districts" (p. 226). But—"the Trade Unions might hold 'Leaving Examinations' to prove that the boys had properly been taught the trade they had chosen," and there should be a "totally separate Inspectorate" reporting direct to Parliament.

OUR author condemns "the indeterminate (or 'early license') sentence" as "radically unsound," and gives weighty reasons. "The hospital doctor," he says (p. 204), "has definite tests which prove cure, *before discharge*. The penal doctor has only his own judgment, for the reaction which proves cure is the reaction of society *after discharge*." No doubt, also, the hope of earlier release for good behaviour does, under present circumstances, as he says, offer an advantage to "the clever hypocrite," for the inside regime is a poor preparation for outside life. But the author himself repeatedly insists on making the regime as much like outside life as possible, and on introducing more initiative, responsibility and freedom, without, however, explaining very definitely how he would do this. He refers to the George Junior Republic in New York State (p. 156), and adds "while not advocating such a sweeping change, more power might be left with the monitors, and more initiative with the boys. Frank criticisms and suggestions ought to be invited." This does not seem entirely helpful. To give more power to such monitors as he describes in Part I. would hardly be wise. The crux of the matter lies in the appointment of the monitors—how and by whom? For monitors will not mend matters much unless they have the respect and confidence of the boys (or girls); and, unless the young people feel themselves responsible for the behaviour of themselves and one another, and unless they are profitably occupied, they will not be proof against contamination and other wiles of the devil. So-called "politics" is, or was, a by-product, not a foundation of the George Junior Republic. In my view (Mr. George would perhaps not agree) that "Republic" is too much of an invitation of American adult institutions. The Little Commonwealth in

Dorset was, I think, all the more of a success (it came to an end through causes irrelevant to its principles) because it was less of an imitation of present adult institutions and was, I understand, fairly free from " politics."

WITH regard to the Indeterminate Sentence, it would probably meet the objections here urged against it if it included :—

(1) Definite, practical, easily determinable, and obviously just and sensible conditions for release—such as, say, mastery of a trade—not moral or religious conditions as such ;

(2) as free and natural a life as possible, as full of temptations as practicable —within the precincts or prescribed bounds :

(3) release to be voted by the inmate's peers, subject to approval of authorities.

(4) facilities for voluntary return.

BUT, after all, the main question is not the length of the sentence, or whether its length is fixed or not—though these are important—but whether or not the treatment each inmate receives is what he requires and secures his co-operation. As the author says (p. 200), " Until the *general public* clearly understand that a criminal is simply *one of themselves*, and not some peculiar and dangerous animal, there is little hope of rational, curative treatment."

ANOTHER aid to such hope would be a better understanding of the demands of good education, and of how mind and character grow, and what impedes and what favours healthy growth.

THIS is a useful book on a great and urgent subject. I hope it will secure wide-spread attention. But it is a pity it has no index.

A. ST. J.

POLITICAL CRIME : A Critical Essay on the Law and its Administration in Cases of a Certain Type : by Wilfred George Carlton Hall. George Allen & Unwin. 1923. (4s. 6d. net.)

THIS little book offers a contrast to the last in that it has an index, though not quite a complete one (was ever an index perfect ?). The first eight chapters, which are on matters of law and history, strike a layman as comprising a thorough piece of work well done, which will probably be of interest to constitutional lawyers and historians, and indeed also to any general reader who wants accurate information on the subject. The last four chapters, on " Objects of Punishment," " Arguments for and Against Leniency," " Practical Utility of the Death Penalty," and " Conclusion," are obviously of a different nature and will meet with varied reception according to the prejudices of readers.

TO the present reader Mr. Carlton Hall seems, in drawing his conclusions, to have shut his eyes to much that is of vital importance. If his syllogisms are logical, has he examined his premises carefully enough, to see if they are well founded ?

TAKE a footnote on page 74, in the eighth chapter, perhaps the first place in which he allows us a glimpse of personal feeling. He writes that " the curious fact may be noted that the English public, which could never sufficiently praise the discipline and humanity of our troops when fighting

Germans, seemed to take it for granted that the *same men* naturally became devils incarnate when sent to Ireland." Well, if these men had dispersed from the corps where they had lived so long together in discipline, and supported each other in humanity, and if, out of those who had not managed to settle down in peaceful occupations, a number were bribed with high pay to leave their homes again and live in the midst of a hostile population, not in regular warfare, but shut up in barracks with nothing to do, the monotony being varied by occasional drives in lorries bawling defiant songs about "Boys of the bull-dog breed," many of these young fellows being perhaps affected in nerves and demoralised by war, what more likely—not to say inevitable—than that, in these trying and abnormal circumstances, they should meet outrage with outrage? What is there unnatural in that?

In discussing the objects of punishment the author perhaps a little misunderstands the argument of those who place "reformation" as the chief end of "punishment," or rather of what should be the treatment of the criminal. They do not argue that the degree of moral turpitude "should govern the punishment to be inflicted," but that the delinquent's whole personality and circumstances should be taken into consideration.

Mr. Hall agrees with Bentham that "security" is a fundamental aim of civil law and government, and infers that "the first duty of every Government is to protect itself against attack, which it can only do by the effective punishment of political crime" (p. 78). But surely the first duty, as well as the best protection, of a government is to remove any cause there may be of discontent and maintain or establish justice, not in the legal sense, but in the living, economic, social, political sense. Perhaps Mr. Hall takes this for granted; but his general argument seems to ignore the fact that discontent enough to make men risk their lives must have some cause behind it, and that, when governments betake themselves to violent acts of repression and terrorism, however much these may appear to be justified by the emergency, they are nevertheless adding evil to already existing evil for which they and the people they represent are responsible. The author seems to assume that justice and security can be maintained by severity or the threat of it; whereas the truth surely is that injustice and false security can, temporarily, be obtained by these means, justice and permanent security, never.

In a footnote on page 78 the author writes:—

> If a rebel faction is strong enough to overthrow the pre-existing power, there is a natural presumption (though it is sometimes rebutted by practical experience) that it can and will form a stronger and therefore more efficient Government than that which it has displaced. Thus rebellion may be completely justified by success, when it results in a benefit to the State; but the unsuccessful rebel has caused bloodshed and suffering to no purpose and deserves no mercy.

But does not history on the whole present the paradox that it is the unsuccessful rebels, from the "Founder" of Christianity downwards, who achieve the real successes; and that the "successful" rebels often afford illustrations of the old adage, *Plus ça change, plus c'est la même chose*—produce, that is, a change of masters without a change of principle—justice and hope still deferred? It may be that unsuccessful rebels deserve no mercy of their vanquishers, but they sometimes deserve the gratitude of mankind. There are things better than strong governments.

"THE matter is one of urgency," says Mr. Hall, in conclusion. And he quotes Mr. Shortt, then Home Secretary, as saying in April, 1922, that he did not believe that since the end of the 18th century in France there had "ever been so much working for revolution as there is to-day." It may be so, though there seems to be little fear of violent insurrection amongst our people. But, in any case, what is the remedy or safeguard? Surely not, as Mr. Hall seems to imply, in the certainty of severity, any more than in the weakness which yields only to force or threats, but in the seeking and ensuing of peace through justice. And by "justice" I mean the co-operation of the whole community in securing a full life, according to capacity for living, for all its members. Aye, the matter is urgent; for there is much injustice.

THOUGH one may disagree with Mr. Hall, one cannot but be grateful for a workmanlike piece of work.

A. ST. J.

HUMANISM AND TECHNOLOGY AND OTHER ESSAYS: by C. Grant Robertson, Sir Thomas Holland, C. H. Desch, Sir Henry Fowler, F. W. Burstall, and W. Cramp. Pp. 91. Humphrey Milford, Oxford University Press. 1924.

FOR several years a summer school for teachers of engineering has been held in Oxford, and it was a happy idea of the organisers to include some addresses on subjects falling outside the limits of a purely professional training, with the object of encouraging greater breadth in the technical curriculum. Certain of the addresses, dealing with the relations between scientific and humanistic education, have been collected in this little volume, which should be widely read by teachers and others who are concerned with the training of the large and increasing number of technical students. The essays show a lively recognition of the dangers of a highly specialised technical education, and suggest means of counteracting the narrowing effects of such a training by the introduction of a humanistic element. As one of the writers remarks, the classics are now being largely displaced by science, even in the older Universities, and in view of the fact that our principal public men and the great army of administrators of our own country and of its colonies and dependencies have been trained in the classical tradition, a grave responsibility is thrown on those who have charge of scientific and technical education. It is no solution of the problem to introduce a few courses in history and literature into an already crowded curriculum, although in the most elementary stages, as in evening classes, advantage may be gained by giving a certain amount of literary instruction along with technical teaching, but in higher education much more than this is required. Scientific and humanistic teaching have to be brought into relation with one another, and this may be done by introducing the historical and biographical elements into the teaching of science and technology, and by laying stress on the influence of discoveries and inventions on the course of human history. A new interest is thus given to technical studies, and the way is opened for further excursions into the fields of history and literature. We miss, however, in some of the essays, a recognition of the other approach to a synthesis, namely, the extension of science to include sociology. When it is recognised that scientific methods are to be applied to the facts of social life as well as to those of the inorganic universe and of organic life, the union of scientific and humanistic studies will be effected, and a true education will become possible. As a step in this direction, the publication of this little volume is to be commended.

C. H. D.

THE INDUSTRIAL EVOLUTION OF INDIA IN RECENT TIMES :

by D. R. Gadgil, B.A., M.Litt. (Cantab.). Cr. 8vo. (pp. xx.–242). Humphrey Milford, Oxford University Press. 1924. (7s. 6d. net.)

Mr. Gadgil's book, to which we accord a hearty welcome, has had its origin as a thesis for the Master of Letters Degree of the University of Cambridge ; and this circumstance is perhaps in some degree responsible for its freshness of outlook, and conscientious adhesion to accurately ascertained facts. Written as it was in the serene and unperturbed atmosphere of an academic centre, it has been able to avoid the besetting sin of the ordinary type of books of Indian Economics, namely, the attempt to camouflage political propagandism under the name of economic science. It is evident that the author has no ready-made economic theories for which he is here trying to seek support ; the impress of an open mind attempting to get at the truth of the matter lends, therefore, a special value to Mr. Gadgil's work.

In the result, he has summarised for us the economic history of India from 1860 to 1914, following faithfully the alternating periods of agricultural decline and prosperity, and the decline of the old and the progress of the new forms of industry. Four out of his fourteen chapters are devoted exclusively to the problems of the agriculturist, indicating thereby that Agriculture is the bedrock of Indian economic welfare, and that the Industrial India of the future must be broadbased upon a well-ordered agricultural system. He points out how, in this all-important branch of Indian economic life, improvements of a far-reaching nature are being gradually introduced, first, through the influence of the external agency of commerce and communications, and secondly, through the efforts of the Government Agricultural Departments, acting on the lines of the famous " Report on the Improvement of Indian Agriculture," which Dr. Voelcker (this name is persistently mis-spelt Voelckler throughout the book) brought out in 1889. On the financial side, the introduction of co-operative credit by Act X. of 1904 has been a boon to the debt-ridden peasant. Altogether, therefore, the beginnings have now been laid of an era of increased production, and in consequence, increased prosperity for fully 75 per cent. of the population of India.

The origins of organised industry in India have yet to be carefully studied ; and it is therefore with special interest that one turns to the pages where Mr. Gadgil discusses this little-known subject. In his account of the beginnings of the Plantation industry Mr. Gadgil tells us how the earlier indigo planters sweated and ground down the Indian growers of indigo, and how they defied all law and authority, keeping bands of paid desperadoes to fight their neighbours and forcibly take possession of their property. The tea industry of the earlier period, similarly, consisted not so much in growing tea as in selling imaginery tea plantations to gullible persons in London. A remarkable instance of such a practice in the district of Nowgong is quoted : " where the Indian manager of a promoter of companies in London was advised by his employer to clear and plant a certain area of waste land for delivery to a company to which he had just sold it as a tea garden." Happily, these are all now things of the past.

In his Chapter on the Decline of the Handicrafts, we have an interesting account of the organisation of an Indian Craft-Guild : " In the bigger cities, each craft was organised into guilds, who looked after the welfare and also the quality of the work of its members. Sometimes, as in Ahmedabad,

the highest personage in the city was made the titular head of the Guilds and called the Nagar-Seth or the City-Lord." Each separate guild was managed by a separate court of aldermen or "Mahajans," literally great gentlemen. Nominally it was composed of all the freemen of the caste, but a special position was allowed to "Seths" or Lords, chiefs of the guild who, ordinarily two in number, held their position by hereditary right. The only other office-bearer was the salaried clerk or "Gumasta." But all this organisation was of little avail when brought into competition with the organisation of mass production in the West; and the very causes which were so helpful in the case of agriculture, viz., increased facilities for communication and the growth of the external trade, spelt grave disaster to Indian handicrafts. "One of the most harmful effects of a foreign rule," says Mr. Gadgil, "is the imposition on the conquered people of the ideals of the conquerors, and the newly created Indian bourgeoisie showed itself during the latter half of the last century extremely ready to accept European standards and pour scorn on everything Indian." Thus was brought about a change in tastes which reflected itself in a change in demand, and this change had as much to do with the decay of Indian handicrafts as the competition of Western commodities. The Europeans introduced new forms and patterns which the Indian craftsmen did not understand, with the result that the quality of his work suffered. But in a number of cases the change in the Indian demand was brought about by some stupid rule or convention imposed by the European official. Thus, for example, we have Mr. Kipling's account of the decay of the embroidered shoe industry. "No sumptuary regulations to restrain extravagance in gilded shoes, and enforce the use of plain black leather, could be half so potent as the unwritten ordinance, which permits an Oriental to retain a pair of patent leather boots on stockinged feet, and requires him to doff shoes of native make when in the presence of a superior." Again the damascening of arms, weapons, &c., once a flourishing industry in certain parts of North India, was effectively wiped out by the Government prohibiting the people from carrying or possessing arms.

THE extent and development of town life may nowadays be taken as an effective indication of the strength of industrialism; and, on this basis, India's weakness is at once apparent. Mr. Gadgil's chapter on the Growth of Towns deserves to be carefully read on this account, for there we have some very shrewd interpretations of the economic forces at work in the country. To-day, indeed, India possesses some industrial towns of the first importance, like Calcutta and Bombay; but one who tries to generalise on Indian conditions on the strength of observations made in urban areas may be warned that less than 10 per cent. of the total population of the country are town-dwellers. This small percentage of the urban population shows more than anything else the slow rate of industrialisation in the country; nor, in spite of a few large industrial centres here and there, is there any big town-aggregates (what Prof. Patrick Geddes calls "conurbations") such as we have, for example, in the Lancashire area.

ENOUGH, perhaps, has already been said to indicate that Mr. Gadgil has produced an instructive and interesting work; and it is to be hoped that, if a second edition is called for, he will find it possible to bring his subject matter up-to-date. For his book closes with 1914, and since the economic India of 1925 differs in several important respects from the India of 1914, the usefulness of the book is considerably diminished on this account.

P. P. P.

ALLGEMEINE SOZIOLOGIE ALS LEHRE VON DEN BEZIEHUNGEN UND BEZIEHUNGS-GEBILDEN DER MENSCHEN: von Leopold von Weise.

NOTHING has been more remarkable in these last few years than the increase in the output of sociological literature. It is as though man, pulling himself together after the amazing experience of the cataclysm of war, and beginning seriously to ask himself in what relation he stands to the other atoms of the social organism, is receiving answers to his question so manifold and written from so many points of view, that he is in danger of becoming utterly bewildered and confounded by the mass of material. It is one thing to let the geni out of the bottle, quite another thing to control and harness his force. It is just this that Dr. Leopold Weise in the book before us has attempted to do. He has explicitly taken as his aim to systematise the study of General Sociology and to differentiate it from cognate sociological sciences such as Psychology, Biology, Philosophy, Economics, &c., restricting its field to the concrete and abstract relationships (Beziehungen und Beziehungsgebilden) in which men stand to each other and dividing all social processes, into processes of association, dissassociation, or a combination of these two.

BIRTH, Dr. Weise remarks, depends on the coming together of two beings, the bitterness of Death lies therein that we must pass through its gates "alone without any company." The study of the movements of approach and withdrawal of the processes of integration and disintegration lying between these two extremes, is the province of General Sociology.

DR. WEISE'S book is divided into two parts. The first part—contained in the volume under review—deals with: (A) Primary relationships, i.e., relations between individuals; (B) Secondary relationships, i.e., relations between crowds, groups and abstract social conceptions.

THE two fundamental processes of Association and Disassociation are further subdivided into principal and subsidiary processes, and in order to make his meaning clear, Dr. Weise has appended a table of human relationships regarded from the sociological standpoint.

THE table is divided into two parts. The first deals with: (A) Relations of men to and with each other; (B) Relations leading to separation and isolation; (M) Relations combining (A) and (B).

UNDER (A) are considered: (*a*) Contacts; (*b*) General relations due to friendship, self-interest, inherent circumstances; (*c*) Approach—through sufferance and compromise; (*d*) Adjustment—through accommodation and adaptation; (*e*) Drawing together—through common interests, &c.; (*f*) Union—through amalgamation, aggregation, &c.

UNDER (B) are considered: (*a*) General relations due to antipathy, interest, internal circumstances; (*b*) Competition; (*c*) Opposition; (*d*) Conflict.

UNDER (M) are considered: Trading, games, &c.

THE main results of (A) are: Good fellowship, sociability, union, dependence. The main results of (B) are: Loneliness, isolation, individuality, independence.

THE main results of (A) + (B) + (M) are: The formation of concepts, crowds, groups, collective abstractions.

THE second part of the table deals with social processes. (C) Processes of differentiation; (D) Processes of integration; (E) Processes of disruption; (F) Processes of conversion and building up.

ALL these headings and a large number of sub-headings which have not been mentioned, are dealt with separately in Dr. Weise's book; for under "General Sociology" he understands all aspects of human behaviour involving human relationship. Obviously the subject is too vast for any one heading to be treated exhaustively, and the value of the book lies not so much in any actual addition to our knowledge, as in the author's conception of his subject and in the suggestive quality of his work. Bound by the goal he has in view to keep to the high road himself, Dr. Weise is for ever pointing out to the student seductive and untrodden byways along which it would be profitable and pleasant to wander.

FOR himself he has deliberately chosen the task of mapping out the new realm of sociological thought—to others he leaves the work of exploring the vistas which he has opened up.

V. L.

A NATIONAL RURAL POLICY prepared by a Committee on Rural Reconstruction. Published for the Committee by Noel Douglas Ltd. (2s. 6d. and 1s.)

THIS Committee, brought together, as it states, with the help of the Directors of Leplay House, has now published its findings in a book which can be bought from Leplay House for 1s. 3d. including postage. The Committee includes amongst others such well-known names as those of Lady Hall, Dr. Gilbert Slater, the Rev. Will Reason and Mr. Montague Fordham, together with such experts on the application of science to agriculture as Mr. Borlase Matthews and Dr. Ratcliffe Salaman.

THE book attempts to cover the whole field of rural problems in a way that has not been done before and this attempt, though necessarily undertaken in outline only, gives it a special value and significance. An advance copy has only just been received before going to press, and it is therefore impossible to write more than a short note to call attention to it in this issue of the REVIEW.

THE present condition of trade and agriculture is such that attention is being very generally directed to the question of the possible increase of our home resources, so that the NATIONAL RURAL POLICY comes out at an opportune moment. It should contribute materially to the understanding of the problem which is before us if such development is to be carried through. No one interested in the condition of England can afford to neglect it.

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INTRODUCTION: A NATIONAL TRANSITION.

By Professor Geddes.

§ 1.

Serious After-war discussions are increasingly making clear how intricate and difficult is the general situation throughout Europe, indeed over the whole world. Our present Symposium expresses a similar recognition of the gravity of the Coal Question for Britain, and thence indeed for all the Britains. Its problem is, therefore, to use the current brief respite from threatened crisis, towards the survey and interpretation of this particular situation, and this as clearly as may be. Towards this enquiry all the sciences are needed: the physical, biological, and social, and these together. This meeting of the Sociological Society, with its varied papers, thus expresses an endeavour to contribute towards such mobilisation of minds.

How best may these be utilised, and in what order? This great coal question has been raised, and is as yet too often treated, as is usual in our times, in terms of the rivalries of pecuniary economics on the one hand, and, on the other, of those of political doctrines in contrast, methods highly characteristic of this metropolis of finance and politics; but for sociological purposes these two customary approaches are not sufficient. We have to get beyond the rivalries of Capital and Labour with their conflict of this "ism" and that "ism"; and with the whole body of conventional "isms" in constant peril from some new insurgent "ism" ever threatening from each new discontented generation. But to return to scientific realities.

Towards appreciating the task before the technical experts of the Coal Commission, a vivid exhibit may be recalled from the recent Sanitary Congress at Edinburgh. Imagine a block of coal weighing 1 cwt.; and on its left side the usually resultant shovelsful of ashes with a good shovelful more of soot also. So much for things as they are; but next for things as they may be, even must be. Hence on the right hand, the comparatively unusual (yet proper alternative) resultant pile of coke, then large bottles of the various oil products, a mass of sulphate of ammonia for manure, and one row of neat little stoppered bottles containing drugs and medicines, with another row containing a series of dyes. If such a demonstration were made in

every city, and with photo-blocks in the letter-press as well, would not the public be rapidly enlightened? Accompanying figures should of course also be added, so as to bring home to every reader something of the magnitude of the economies and efficiencies thus waiting to be realised.

HERE, in fact, is the germ of an itinerant Coal-Products Exhibition: one practicable, even on an enlarged scale, within the dimensions of a shop window! For in such space we may add some corresponding presentment of further practical ideas beyond the preceding physico-chemical ones, and these even with their important money economies. Thus, indications of the corresponding health contrasts might readily be given. And why not also of further social advantages —such as bettered housing, to begin with? And so on. Despite less popularly presented treatment, the body of this paper is thus already arising before us, in first outline. And no doubt also the other papers to be presented at this meeting would be found implied in a well-arranged Coal-Products Exhibition.

THE fuller elaboration of our enquiry must indeed go further: for it raises many questions, past and future, far and near. Take a fairly concrete instance, one at first sight naturally seeming "far-fetched," yet becoming pointedly relevant, as we proceed on our way. So let us go back nearly a century, and to the first demonstration of the antiquity of man, by the unearthing of his flint implements in fairly old quaternary strata by a French archæologist, M. Boucher de Perthes, since justly remembered. Yet not with full understanding, till we look into his biography, and find that this was but his starting-point. His essential life of enquiry and thought was directed upon the general progress of man, throughout all his phases of civilisation, as connected with his tools, and their developments, up to actual machines and their possibilities. Thus, chanting "Tools and the Man," he struck from his flints a far-ranging light, which made him, throughout the generation before 1851, the earliest pioneer and most active pleader for International Exhibitions, and these essentially in order to illustrate this view of progress.

LATER archæologists have gone deeper into their caverns; while economic historians and critics are ever reaching further understanding of our current industrial age. And are not both increasingly seeing that long after the primitive Prometheus of that distant age, with his

flint and fire, our supreme inventors of recent industrial times with their steam and steel, have been repeating his epoch-making achievement upon our modern spiral?

If so, note how Evans and others have clearly discriminated what used to be too vaguely called "The Stone Age," into two clearly contrasted phases of civilisation, though of course each with its minor periods, and their arrests, their collisions and reversions also. Hence we now call these main periods the Old Stone Age and the New, the Palæolithic and the Neolithic. And these are not simply characterised by ruder implements, followed by more finely worked and often polished ones. For the Palæolithic peoples were of the ruder hunter and fisher occupations; yet not without their own skills, and with these an often amazingly vivid art. But the Neolithic folk were of the gentler agricultural life, with new developments of the crafts of peace, and with the higher development and status of woman, which goes with all these. They were cultivating plants and domesticating animals (with cultivation and domestication of themselves accordingly), and thus initiating the basal elements of later civilisations up to our own day, not only Neotechnic, but Geotechnic and Etho-Politic. Prehistoric and historic research are thus being increasingly brought together.

Note now that we are accustomed to speak of our "Industrial Age." But in this too vaguely inclusive term, must we not similarly distinguish its main periods, an older and a newer? With all respect to James Watt, and his contemporary founders, has not our Industrial Age in its beginnings (and indeed, too, much to this day in its continuance), been in the main a rude stone age, albeit of Coal, not Flint? Has it not been getting up coal almost anyhow, to get up steam almost anyhow, to run machinery to produce cheap products almost anyhow, to maintain too cheap people, housed almost anyhow—and these to get up more coal, more steam, more machinery, and more people, still almost anyhow; all too essentially for profits and dividends anyhow, economically estimated in gold units, and these mostly after death anyhow, (of course in oratorial and political terms we naturally use more polite and pleasing phrases, such as "Unparalleled Progress of Wealth and Population"; but this is a scientific meeting). Our essential goal on the above principles is thus best realised in the "Black Country." But to its further possible realisation we are now

awakening—that of multitudinous over-population at too low standards of life, and upon a soil too limited for their agriculture, even where not bricked or ashed over: in short, of mean and miserable cities, subsiding upon exhausted or abandoned mines.

FROM this depressing picture of the logical and practical outcomes of the Industrial Age in its ruder (and still too predominant) form, turn now to the electric developments now multiplying so rapidly over the Continent, as from the Norse mountains to Alps and Appenines, and even from Finland to Palestine, Ireland and Iceland to Spain; and all from the streams of "White Coal," inexhaustible while the earth spins, the winds blow, and the mountains stand. Moreover, instead of industrial towns like ours, these streams are increasingly generating their chains of townlets, even villages, in which all these more fortunate (since hitherto more "backward") peoples may retain their rural vigour of mind as well as body, and so develop a finer technology than is yet ours, or than we can easily readjust ourselves to.

HERE, then, are two very distinct Industrial Ages, most broadly characterised by steam and by electricity respectively: so let us clearly describe them, and in parallel terms to those for antiquity, as Old and New Industrial Ages, in brief as *Palæotechnic* and *Neotechnic* respectively.

IF so, our social situation and resultant outlook are very different from those still so widely assumed, with watchwords of "wait and see," of "muddle through," and the like, and even to persisting in that now most impossible of all Utopias—"Business as usual!" For persistent Palæotects simply cannot survive against Neotects, any more than did Palæolithic against Neolithic peoples. It is thus no wonder that at this time so many of those who are too intelligent to accept such fatuities should be in fear of industrial catastrophe; or at any rate, too weakened by such pessimistic realism to think effectively, much less take active initiatives towards the needed better re-ordering of our whole industrial life.

YET it is we in this island, who have had the supreme inventors of the Palæotechnic Age; and even great pioneers of the Neotechnic:—witness, respectively, Watt and Kelvin, and each but for single choice. Nor is their type exhausted; our physicists, chemists, mechanicians

and so on are at least holding their own. So the difficulty is not with them, but in that robust immunity to science, and even to its applications, which still characterises our public and its so-called " Educated and Governing Classes " alike ; in a word, the Paleotechnic mind. Such backwardness is of course still too common everywhere ; but still with us it is entrenched to a degree which makes us the very wonder of surrounding peoples ; not simply of Germans and Americans but of those we are pleased to think " small," or even " backward " nations.

YET as the war showed, we can gird up our loins like men : and now that the After-war slackening has had its seven depressing years, we must soon be doing the like anew. What clear thinking, therefore, can we bring to bear upon the current situation—now clearly definable as that of a National Transition. Transition from our predominantly Palæotechnic dissipation of energy, matter and life (all hitherto too much veiled by pecuniaristic thought and struggle) ; and to a correspondingly dominant Neotechnic order, characterised by the rational and skilful utilisation of our lives, energies and materials. We have thus to emerge from national deterioration with its increasing poverties and unemployment, and to enter upon a new period of evolutionary progress, and that again not only neotechnic, but geotechnic also, and Ethopolitic as well. Is not our needed goal in this direction, that of an increasingly realisable Eutopia, concretely regional and civic ?

§ 2.

IT is long since Stanley Jevons first called the attention of other political economists to the definite energy values of coal, for industrial prosperity and its continuance accordingly. Yet this physical view of economics, this doctrine of national economy, have not yet obtained their due and needful recognition from the conventional schools, with their persisting concentration upon individual interests, and upon " the market," in which exchange-values are practically all-sufficient.

IT is thus an important social progress to have at length a government commission, not only of financial experts, but these reinforced by the technical advice of competent engineers. Yet the prediction may be reasonably hazarded that in time, and in practice, the position of these may become reversed, so that the engineers come to occupy the more authoritative position ; though of course with full criticism from

accountancy of the utmost skill, and under due presidency of an impartial and experienced reconciliator of conflicting views and interests.

YET can even these three essential viewpoints complete the necessary enquiry? To most at present it seems so: but is not this in consequence of the persistent limitations of our commercial and industrial world? For its essential activities, monetary and mechanistic, arithmetical science is of course supreme in its pecuniary applications, though the mechanical, physical and chemical sciences are increasingly applied, and even advanced, as far as may be under such limitations. But this hall of the Royal Society in which we are meeting is surely of all places the one most definitely to remind us that physiological science, with its superlatively life-important applications, through agriculture and medicine to sanitation and public health, must also have full hearing and representation in any such industrial enquiry. Indeed, it would not be difficult to justify the claims for representation of each and every one of the biological sciences, as those of the physical sciences may be taken as already granted. Thus the energies of coal, and of the wood-fuel which preceded it, as of all agricultural productivity as well, have to be understood in terms of photo-synthesis. Indeed, the long-surviving general blindness to this fundamental life-sustaining process throughout nature is obviously a limitation of current economics and politics, and in some ways one of the gravest. Again, while economist and politician agree, at least nominally, in desiring clear and comprehensive observation, good arrangement of phenomenal facts, orderly thinking, and logical presentment accordingly, their notorious practical shortcomings are not a little dependent upon their mental satisfaction with their old-world logic, and their non-utilisation of the classificatory discipline of the natural sciences; save in so far as the card catalogue, or the loose-leaf ledger, applies the fundamental herbarium which made Linnaeus the veritable renewer of logic; at first for the forms of living nature, but now also for the study of civilisation. Its customary pecuniary and physical treatment has thus been modernised. Again, though any orator can speak of progress, or development, and even of "Evolution," these concepts remain more or less amateurish until some technical experience gives them greater accuracy. And so on for other fields of biology. Thus the population question cannot be ignored, and the claims of Eugenics are becoming insistent. Again, there is certainly nothing more obvious throughout the whole current claims of labour

than the natural (*i.e.*, organic) insistence upon the maintenance of the standard of life, the real wages; and hence upon these as of an order altogether above and beyond that of the nominal and pecuniary wages, on which the ordinary mind formed by the traditional economists has been so preponderatingly (and preposterously) concentrated.

FROM biology one readily comes to psychology: and here the traditional political economics has long felt itself established. But, unfortunately, for this long-dominant utilitarian school, its essential psychology has been unanimously abandoned by psychologists, so that though these are in many schools—say, ten or a dozen at least—one of their clearest agreements (as their treatises show) is in dropping such psychology altogether, as now merely of historical interest, and practically without survival value. It is thus time for economists to be turning their attention to more modern psychological studies than those of their teachers. If and when this is done, the consequences are serious. Thus, take only a single example among many—the traditional (and apparently common-sense) assumption of "the economic man," as desirous of escape from the exertions of labour, and towards the life of passive leisure and safety, yet with desire of optimum nutrition fully gratified, and that of increase of population also, yet with minimum effort towards the upbringing of offspring. However satisfying this may have been to classically economic minds, and however widely popularised into current folk-lore also ("Ca' canny," &c.), this is now plainly seen, by psychologist and biologist alike, as but the theory and practice of the sessile and the parasitic organism; a theory and practice towards its inevitable degeneracy, and this increasingly, in the measure of its apparent "success." On both these sides of the study of Life, the biological and the psychological, it has long been becoming clear that the paths of evolutionary ascent are on very different lines:—those which lead through the facing of dangers, the surmounting of difficulties; and far more through the modification of environment—at best even to transformation—than through its passive acceptance. Yet, conversely also, the often-supposed biological and evolutionary verification of the doctrine of competition in commerce, thence leading up to the approval of war itself, is too much but an argument in a circle, a projection from classical economics into biology: since it was a generation accustomed to believe that "Competition is the life of trade," which so readily believed competition

to be the trade of life. In this respect, and as thus interpreted, in commercial Britain and military Prussia especially, Darwin is correctly described by a leading American historian of economics as "the last of the great British economists." Yet Darwin—as biologist—also opened the more truly evolutionary horizons, as so notably by his appreciation of the ascent of birds and mammals through motherhood and parental care, and with psychological development seen as fundamentally emotional; or, again, in his understanding of the intricate interdependence of the web of life in its innumerable co-operative interweavings.

In short, then, the present discussion of the Coal question, like every other human and social one, has inevitably its biological and psychological presentments, whether avowed or tacit, latent or patent. And if so, it must make all the difference in the world whether our doctrines be those of the "Utilitarian" school, or those of the present day, for which the former are now essentially "futilitarian."

It may here be replied that the professors of economics are no longer so much in the rear of advancing science. This is largely true: in fact, most may be personally congratulated as more or less modernist in tendency, and often even in teaching (though still inadequately so). But this progress has not yet adequately reached the public. And though progressive minds and endeavours have also long been manifest, both in leaders of capital and of labour, the long-established pecuniary mysticism of gold, the mythology of mammon, still substantially survive in their ranks; just as older forms of folk-lore have long outlived their promulgators, so with these to-day.

Hence the pecuniary mechanistic doctrines of political economy, though hitherto warping the biological and psychological doctrine of economics into apparent support and even confirmation of them, have now themselves to be thoroughly readjusted into harmony with the realities of life in evolution, alike as regards its organic and psychologic processes and products.

Here a concrete example may aid clearness. In our industrial age, our dominant pecuniary-mechanistic civilisation with its concentration on manufactures and transport, on commercial exchange, and on the financing of all these, i.e., the large investment of capital not only in mechanical appliances of production, but in the multiplication of a proletariat not yet easily invented away, and with provision of cheap

clothing and food accordingly—all this has failed as regards their shelter and furnishing, their housing; so that the present scarcity is but a tardy awakening to this result, necessarily ob-cumulative. Under these circumstances the occasional Cadbury or Lever who (at apparent economic sacrifice) provides decent homes for his workers, remains still a comparatively isolated figure; since economic orthodoxy cannot but restrain the following of such examples as "non-economic." But to the biologically minded (let alone those psychologically awake), the construction of the hive or anthill, of the nest and of the home, is seen to be necessary. Hence, since the economic doctrinaire continues to fail to see his way towards adequate provision of homes (in the present case for colliers), it is time for him to disappear in favour of those who know they must build; and who will, can, and do so, in the measure of their (lamentably limited) powers.

In this way, in fact, despite the failure and silence of classical economics, and the disappointing apathy of its labourist and socialist critics (themselves still too little emancipated), there have arisen some Housing activities, and even the (beginnings of the) Town Planning movement. But with this conception of the grouping of homes, we are rising from the pecuniary levels of the individualistic animal and the social (and thus mental) sluggard to at least the ways of the ant, and not without hope of advance in wisdom, as we consider these.

§ 3.

With physical and biological science applied to ecomonics, we have got as far as the studies of the Royal Society can help us. But while this limitation of scientific research and discussion was inevitable to the learned societies of the seventeenth century (since these were still but emerging from the atmosphere of religious as well as political wars), the eighteenth century became open to social discussion, from which, in course of the nineteenth, our sociological movement has arisen. So far, then, from being satisfied with the aid of the sciences so far considered, we see these as, for our purposes, but the needed preliminaries of Sociology proper; and in this field our main demands have to be made. These, too, are far more extensive than any university has yet granted us, for though its schools of classical learning, history, philosophy and morals, have more or less admitted also the teaching of economics, our sociological divergences from this can but all the more reappear anew.

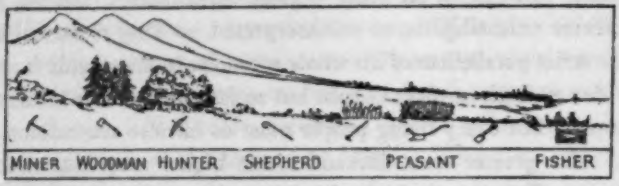
For the sociologist has not merely to repeat on this level the preceding criticisms of inadequacy of the pecuniary-mechanistic culture, and to insist, with Comte and Spencer alike, upon the full recapitulation and application of biological and psychological as well as physical science. He has further to insist upon fully executed geographical, naturalistic and social surveys; and these carried into detail, regional and civic, that meet those of Humboldt, Ritter and Reclus. So, too, he has to consider the work of Montesquieu, Buckle, Taine, &c., upon the important bearing of environment on organism, of place on people. But if we go so far, there is no escaping the further steps made by Frédéric Le Play: and these not merely as regards his family budgets, at length accepted in current schools of economics. We need to follow up his substantial initiative towards the study of the nature-occupations, as fundamental and initiative for those of our whole complex modern world. Important for human biology and anthropology as is Darwin's Descent of Man and all that has followed it, fascinating also as is his rediscovery of relations like those of worms and soil fertility, of flowers and insects, and of other webs of natural evolution, the Le Play line of social evolution is most productive and fascinating of all. Hence it must before long be recognised, even by the most up-to-date "fundamentalists" in economics, that the whole modern complex of occupations and division of labour, in this or any other great city, has thus to be re-interpreted upon evolutionary lines: since all traceably arising from the simple occupations still manifest in every region, as we survey it from hill-tops to sea. Economists have of course long had some inkling of this: indeed, their Physiocratic beginnings were substantially in terms of the peasant civilisation of rural France; while their later discussions of "hunting, pastoral and agricultural phases" were attempts towards extending this basal realism, albeit too hypothetically, and apart from the contemporary progress of geography and anthropology.

It is assumed in Universities, and still too much throughout research and education alike, and hence by the public, that Geography, Economics and Anthropology are distinct subjects, to be prosecuted independently, each in its own academic department or learned society. But life cannot be found in "environment" apart from "organism," nor yet in "organism" apart from "environment": it exists in (and during) their interaction: an interaction in which, though the

environment conditions the organism, the organism reacts upon the environment. This is obvious for man as organism, and from his life-breath throughout all other organic functioning: but his social life remains unintelligible, or misinterpreted, so long as we fail to see also the strict parallelism of his whole social life to his organic functioning. For each given place cannot but so far condition its inhabitants, its people: but every living people must so far also recondition their place. The greater their difficulties, the higher may thus rise their economic efficiency, indeed, hence their advancing civilisation. Switzerland, and yet more Holland, each a region of peculiar difficulties, yet of corresponding mastery of them, are thus obvious examples in point. In short, then, Place, Work, People, have not merely to be separately analysed, as into the geo-morphology, the market economics, and the cranial anthropology which still go on, in necessary detachment from each other, in separate academic departments, in museums, and in learned societies. They have also, and above all, to be seen in living unity. These three, and long apparently distinct studies, are now-a-days increasingly uniting. Within the single chord of social life all three combine; yet with definite inter-relations, by help of which all the fields, sub-divisions and details of their past studies may be more fully and freshly re-investigated, related and harmonised. In a word, these three studies of place, work and people thus revive, from so many separate and analytic enquiries, each like a post-mortem examination, into a vivid presentment of the living unity of society. In fact, Geography, Economics and Anthropology are so intimately related (as every open-minded traveller has seen from of old), that it can hardly be much longer before all their separate cultivators realise their co-operation and union within the field of Sociology, thus fertilised anew by their associated labours.

FURTHER developments of this approach to Sociology—first by Le Play's French disciples, in their books and reviews (LA SCIENCE SOCIALE especially), and next in our own Society and its REVIEW—are thus easily referred to. Moreover, current archæology and anthropology have long been tracing the evolution of occupations; as from the simple gathering, hunting and fishing of Palæolithic man up to his neotechnic agriculture. But between these simple societies and our present age the sociologist has observantly and interpretatively to work out the steps and phases of development. Hence his increasing insistence upon regional survey, as preliminary to urban studies, to

civic survey, and city improvement. The fundamental rural occupations for such studies are indicated in the accompanying diagram.

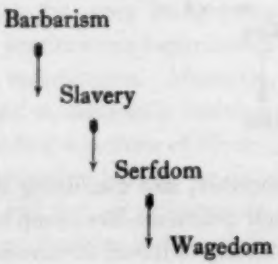


Here are Miner, Woodman, Hunter, Shepherd, Peasant—of poor and richer soils respectively, and with progress towards (as well as development from) Gardener and Fruit-grower—and, finally, with River-fisher passing to Sea-fisher. Thus prepared by our rural survey, our varied modern street acquires a fresh and fuller interest, shop by shop, building by building. Thus its goldsmiths and jewellers, smiths and ironmongers, plainly represent the metal-miners, in the town's fair. The woodwork, the timber and wood-fuel are the woodman's contribution; while the coal-miner is a comparatively recent combination of these two occupations into one. A word only for the other occupations—as we pass onwards to draper's shop and to inn-stable, as from pastoral life and its necessary caravan journeys, and thence come to church and school, so deeply pastoral also in the patriarchal sense. In the hiring market we meet the poorer peasant, yet next see in the bank and the insurance-office the high development of his characteristic economies. Not only in flour-mill or brewery, or as baker and butcher, do we find the richer peasant, but also in alehouse and club, in law-office and court-house. That gardener and fisherman have each their shops is obvious: but also further developments as well, as for the latter the navies of peace and of war; while to the trade of peace we owe the grocer's shop, the bonded warehouse, and so on. Each occupation may show more or less of its respectively characteristic building or architecture, as from roughest wooden shanty to Venetian palace: yet this is a developed lake-fisher's hut on piles. So we may go on indefinitely, as for all the arts: so, too, for folk-lore, or from story, saga and myth to literature, religion and philosophy: and the like for each and all the sciences: for here, in short, is one of the most potent of evolutionary keys towards opening up that most attractive of studies, that of the development of our civilisation. So—and indeed above all—for history, as so notably illuminating its empiric records of strifes and wars, of finer achievements as well.

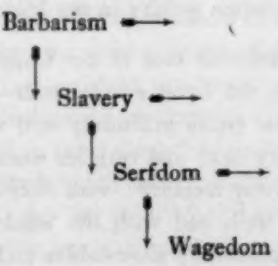
§ 4.

TAKE here a single linkage between history and economics, that of the succession, so familiar to both studies, of barbaric slaughter mitigated to slavery, this softening to serfdom, and this at length giving place to wagedom. The older interpretation here is optimistic, as is obvious on grounds of political freedom. Yet modern labour has increasingly been taking the pessimistic view, as for the no less obvious reason that " when one would no longer feed his slave, he calls him free." Hence the survival-need of strengthening individual wagedom into associated bargaining, as by trades unionism. (Hence, too, this has been successively prohibited, resisted, and impeded, by capitalism in power; and it is still inadequately understood and accepted in various quarters.)

HERE a simple graphic presentment may serve towards clearer presentment, and even enquiry. Let the classical and optimistic view of these changes be printed as a line of progress, thus :— Barbarism ⟶ Slavery ⟶ Serfdom ⟶ Wagedom; and the converse proletarian and pessimistic view as a line of fall, thus :—

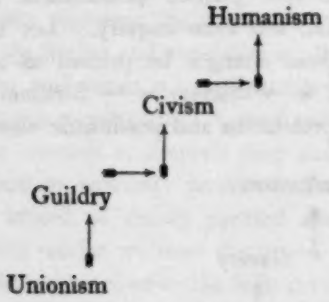


These lines suggest their resultant as embodying the essential element of truth in both views—



So far this combination of doctrines, that of advance in political status with that of fall in economic security. The diagram next suggests the enquiry—whether we may not next tabulate a corresponding rise? Association is still but for bettered wagedom; but beyond this many have long been pleading for the development of trades-union to guild, with its higher standards of association, and this truly professional in the best sense, as seeing beyond quantity of pay to quality of work. Beyond this, again, there is plainly re-appearing the old conception of a guild's work as also having civic value and significance; so that we are thus recovering the ideas and ideals of ancient and mediæval citizenship: and next of this as, at its best, fully humanised.

In summary then, this series now reads upwards, and forwards, as—



Let us now view both schemata together, and combining them, as we may now mentally do, into a single pendulum-like sweep of curve, have we not a clearer outline of the history of labour at various times? And this alike outlining its various historic rises and falls? And even graphically suggestive in detail?—as, for instance, for the contrast, yet co-existence, of civic spirit and of slavery in ancient Athens or Rome; as of rural serfdom and urban guildry in the Middle Age.

Apply this scheme now to our particular case of the Collier. He, of all workers in Britain, has been the latest emancipated—in fact, in Scotland at least, enslaved in law (since practically sold with the mine) until little more than a century ago; and with his women-folks used as beasts of burden until surviving memory; with their children also prematurely underground as well, and with the whole family still too often housed in what are practically slave-cabins and hovels.

Furthermore, that slave and master are inseparably linked by the same chain, and this spiritually as well as materially, our modern annals have given too frequent evidence. Zola's tragic GERMINAL is here, in many ways, also to the point.

YET colliers to-day have their association highly developed. And that this is not without outlooks towards guildry, aspirations towards civism, spirit towards humanism, we have also evidence; as notably in the best of their labour leaders, as from Keir Hardie onwards, and happily also in the élite of coal-masters as well, Our diagram, therefore, is on the whole a horoscope of hopes; and may even be applied further, as suggestive towards planning their realisation.

TAKE next a fuller line of historico-sociological treatment. What is the characteristic field, and essential concept, of sociology? The mathematician's mind deals with concepts of movement in space and time, the physicists with the phenomena of matter and energy, and the biologist's with those of life. What are these last? And how related, to the social, how distinguished also?

OBVIOUSLY for every living being, from humblest to highest, there must be nutritive and reproductive functionings; and these in relation to their environment. Moreover, despite the long traditional error of political economists in insisting essentially on egoism, the primary self-regarding functions of life become increasingly subservient to the species-regarding (and so far altruistic) ones. In fact, this is a main process, and test, of evolutionary advance, and more important than any others, however earlier applied.

BUT sociology, while utilising all the preceding biological concepts, has its own distinctive field beyond them. Its essential and distinctive concept is not merely of "Society," for animals have their societies, and with their "Consciousness of Kind," their "Herd-instinct," &c., Human societies show a course of changes far beyond those of animal societies; since these are largely cumulative, (in ways transcending those of biological heredity) throughout the filiation of human generations (and in the "*durée*" of individual life also.) Sociology is thus distinguished by its study of this manifold heritage of civilisation: and alas, also by its corresponding recognition of correspondingly transmissible burdens, with increasing enquiry into these.

THE clear distinctiveness of this social heritage from organic heredity (and correspondingly of social burdens from organic ones) is of course here essential; since too often "Heritage" and "Heredity" have been confused, and still sometimes are.

THIS main problem of sociology thus becomes seen as of the fullest evolutionary range; and its treatment has thus to be more comprehensive and thoroughgoing than have been as yet those of contemporary economics; or even of politics, great though its activities have been, both as regards heritages and burdens. The still customary discussions and treatments of all these, too independently of their historic filiations and their mutual interactions, &c., are thus necessarily inadequate; indeed too often futile or misleading, when not positively disastrous.

HERE, however, we must pause for the present, since the needed fuller sociological approaches to our problem would too much exceed present limits. If and when a further meeting may be arranged, a further paper will be offered: but towards the present discussion the preceding theses may be already too numerous.*

*Fuller presentments of some of these theses, and of others not yet here mentioned, will be found in past issues of the SOCIOLOGICAL REVIEW and in its preceding SOCIOLOGICAL PAPERS; and others in THE MAKING OF THE FUTURE series; in the writer's CITIES IN EVOLUTION, &c., and in PAPERS FOR THE PRESENT (all obtainable at Leplay House).

PART I.: TEAM-WORK UNDER THE TOWN-PLANNER.

I. NEEDED TECHNOLOGICAL READJUSTMENTS.

§ 1. A POLICY OF ADAPTATION.

By Professor Cecil H. Desch, F.R.S.

In order that the coal resources of this country may be utilised with the greatest advantage to the community, extensive changes in the technical methods of mining coal and of using it for the production of heat and power will be necessary. The present paper is only concerned with a part of the problem, the more efficient use of coal as a fuel. A large quantity of inferior coal is now left in the pits as being unsaleable, and it will not be possible to extract this coal at some future time, even should values change so as to make it desirable. A further quantity, although raised to the surface, is rejected and remains on the colliery tip. One aim of any technical reform must be to make use of this inferior coal, which has hitherto been wasted. It is still more important to use the coal which is at present burnt as a fuel more efficiently. The direct burning of raw coal, now by far the most general means of obtaining heat or power from it, is to be condemned on many grounds. It is wasteful, since the by-products, which are so important to agriculture and to the chemical industries, are entirely lost when the coal is burned in furnaces or grates, whilst smoke is usually, and often unavoidably, produced. A heavy burden is thrown on the means of transport, a very large proportion of the load carried by the railways consisting of coal. Proposals for fuel reform should therefore aim at the complete abolition of the burning of raw coal, although its replacement may have to be a very gradual process. It is here intended to outline a scheme involving a greater use, for industrial and for domestic purposes, of electricity, of gas, and of coke or other smokeless fuel, depending on no new principles, and making the greatest possible use of existing plant and arrangements. It would be easy to construct, on paper, a new scheme for the whole country which would involve the scrapping of most of the existing plant and its replacement by more efficient appliances, but such a revolution is impracticable. The suggested policy is less grandiose than those based on the construction of immense power units which have attracted

most public attention in recent years, but it is believed to represent the views of technical men closely acquainted with the conditions of collieries and with the utilisation of fuel, and it has been drawn up in consultation with them. It could be put into practice gradually, with a minimum of disturbance to present conditions, economic or technical.

IT is generally agreed that the railways should be converted, as far as possible, to electric traction, and that the electrical driving of industrial machinery, already general in all newer works, should be made more common, on the grounds of cleanliness and health as well as of efficiency. It is most often proposed to bring this about by the erection of "super" power stations, generating electric current by means of coal-fired boilers and steam turbines, placed near to large centres of population. Their sites have often to be determined by the supply of cooling water, which is required in very large quantities for turbines. Such stations demand the transport of coal by rail from the coalfields, and they burn coal in the raw state, the by-products being lost. Their economy has been overrated, the low fuel cost per unit not being the only factor to be considered. When the very heavy capital charges are taken into account, it is found that current may be and is generated more cheaply in certain existing colliery plants than in the super power stations. It is here intended to show that other methods are preferable.

COALS may be either coking or non-coking in character. It is certain that coking coals are too valuable to be used for burning in the raw state. When crushed and treated in modern ovens they yield, with a high efficiency, a rich gas, by-products, and a solid residue or coke which may be made, by proper control of the coking operation, hard enough for the blast furnace or for foundry or other metallurgical purposes, or soft enough for use as a domestic fuel. Non-coking coals cannot be treated alone in this way, but modern investigations have shown that they may be blended with coking coals before charging into the oven, and that great success may be attained in this way. This procedure is certain to become more frequent in the future.

WHILST, for the sake of economy, coal should be converted into its final products as near to the mouth of the pit as possible, the single colliery is too small a unit for efficiency. Almost any scheme for the reorganisation of the coal industry is bound to include the grouping

of collieries, but opinions will differ as to the most useful size of the aggregations. For coking purposes, the pits may perhaps form a larger group than would be suitable for purely mining purposes. For the latter it is desirable that the group should be of such a size that a responsible technical manager can maintain personal supervision of all the pits in a group. With larger regional aggregates, personal contact is lost, and the central administrator becomes a remote chief, dependent on the reports of his subordinates for his knowledge of the working of the pits. Close co-operation between all the groups of a coalfield is of course an essential. For coking purposes, however, a larger unit is desirable. At a convenient geographical centre for a group of collieries there should be a coking plant capable of dealing with the output. In the opinion ef experts, the quantity treated in a year should be of the order of a million tons in each plant. In the first instance, only the small coal would be treated, this amounting to about one quarter of the whole, so that such a plant would correspond with a total output of about four million tons. The ultimate aim should, however, be to convert the whole of the coal which is to be consumed in this country into gas and coke, leaving only the quantity required for export to be conveyed from the colliery in the raw state.

THE gas from the ovens could be supplied to the district for heating purposes, both domestic and industrial. It has been found practicable in America to transmit natural gas through pipes for distances as great as 100 miles, and the long-distance supply of gas is making great strides in Germany, so that it may be regarded as practicable to supply large areas with gas direct from the collieries. In the planning of the new Kent coalfield, it has been proposed that London should receive its gas supply in this way. Gas is the most convenient fuel for household heating and cooking, and has many industrial uses. All excess above that sent out through pipes should be used on the spot to generate electric power, gas engines being for this purpose greatly superior to steam engines.

BEFORE the coal passes to the washing plant which is now almost an essential part of the colliery, it should be screened to remove the smallest particles, which hinder the washing process. This dust, together with coke dust and other dross, may be pulverised and burnt as powdered fuel to raise steam in water-tube boilers, this method having proved itself to be highly efficient. Old-fashioned boilers need not necessarily be removed, but should be fired with the dross which

has often been wasted. It has been found that very inferior fuel may thus be used, auxiliary gas being supplied to assist combustion if necessary. The object is to disturb existing plant as little as possible. Such devices may be shown to have a comparatively low thermal efficiency, but if they utilise on the spot fuel which would otherwise have no commercial value and would merely go to increase the huge and unsightly colliery tips their adoption is justified.

To take advantage of this generation of electric power, there would have to be a linked-up network of power lines and stations throughout the region, such as now exists in Northumberland and Durham. The power from the generating stations at the collieries would be fed into this general system. As the colliery areas lie near to the main lines of railway, the electrification of those lines will be greatly facilitated, the generating stations being so situated as to call for a minimum transportation of coal. The concentration of manufactures near to the coalfields, caused by the industrial development of the last century, already ensures a great demand for power within a short distance of the stations, but the ease with which current is transmitted will certainly lead to a greater decentralisation of industry, with some relief to the congestion of industrial areas.

IRON works, which are situated on or near to the coalfields, produce very large quantities of blast furnace gas, usually greatly in excess of the consumption in the works plant. This is best used in large gas engines, again driving electric generators. The gas is too poor for conveyance to a distance. Where the power network system is sufficiently developed, there is no difficulty in making use of all such surplus power. Moreover, old plant may have its usefulness increased in many ways. Metallurgical works using old steam engines which are satisfactory except as regards efficiency have found it useful to instal exhaust steam turbines, so securing large additional power at a comparatively small cost. Waste heat from metallurgical furnaces may be used in boilers, the resulting power being again fed into the general system. Such a plan is to be preferred to the wholesale scrapping of old plant. Great elasticity is possible, so that a works connected to the system may be supplying current to the network at one period, and at another drawing current from it when its own demand exceeds its production. This scheme is actually in operation, and is found to have great advantages.

IT is evident that this system of generation of power at the collieries cannot be greatly extended without considerable changes in economic and even in political conditions. Even now, there are collieries which could supply both more power and more gas to the surrounding districts were it not for the existence of powerful vested interests, in the form of gas and power companies and municipal departments. Legislation will be necessary, and the economic organisation will have to be extensively altered, but the same is true of any plan for the wholesale reconstruction of the coal industry, and is not to be regarded as an insuperable objection. It is a prospect which the country will have in any case to face.

TWO questions remain, that of low temperature carbonisation and that of the position of existing gas works. Carbonisation of coal at a low temperature has been extensively preached, and appears for the moment to have captured the fancy of the press and of a large part of the public, but it is not, in the opinion of most experts, practicable as a solution of the whole fuel problem. The process, in whatever form it may be carried out, suffers from the low value of the products, as compared with those obtained when coal is carbonised in modern coke ovens at a high temperature. It may be useful in certain conditions, and it may be necessary for the production of liquid fuel, the importance of which for marine purposes is great, whilst the supplies of natural petroleum are not inexhaustible, and are apparently dwindling. It is possible, however, that the problem of the supply of oil may be solved by chemical synthesis. Coke is easily and cheaply converted into water gas, and a synthetic liquid fuel, namely, methyl alcohol, is already manufactured from it by a catalytic process, whilst in the laboratory, by using a different catalyst, paraffins have been produced. There is no chemical improbability in a process for the production of a synthetic liquid fuel, either of the nature of petrol for motors or of heavier oils for marine purposes, by chemical processes from coke. The partial success of Bergius in the production of oil from coal by hydrogenation under pressure indicates another possibility. Synthetic chemistry is only at the beginning of its achievements in its application to coal. At the same time, the possible usefulness of low temperature carbonisation has to be borne in mind, if it can be shown that it can be carried out with commercial advantage.

THE usual method of carbonising coal in gas retorts, the coal being brought into the town for the purpose, is not the best scientifically,

and it is probable that town supplies of gas in the future will come chiefly from coke ovens near to the pit mouth, as is already the practice at Middlesbrough, and partly so at Sheffield and Rotherham. A great saving in transport may be effected in this way. The transformation of gas works into chemical works may assume importance as the synthetic processes alluded to above are further developed.

THE intention of this paper is to suggest that gradual changes in the fuel industries may be brought about on such lines as are here proposed without any revolutionary scrapping of plant. The most practicable policy is not necessarily that of aiming at the maximum theoretical efficiency, and it may be better to put up with a somewhat lower efficiency if thereby existing engines and other plant can be made use of, thus avoiding the extremely high capital costs of the more ambitious schemes. Experts have calculated that central coking plants at the collieries, free to dispose of their surplus gas and electric power, would be profitable, whilst they would relieve the railways of one of their heaviest burdens, and would facilitate the transition to healthier conditions, both of industry and of housing, in the manufacturing areas, where the evils of the industrial revolution of the late eighteenth and early nineteenth centuries are still so prominent.

§ 2. AN ENGINEER'S SUGGESTIONS.

By MR. E. KILBURN SCOTT, M.Inst.E.E.

IT is almost traditional in Great Britain to look upon the supplying of gas and of electricity as competitive, and a good deal of antagonism has been fostered by the respective trade journals which represent these two supposedly rival methods of using potential energy of fuel. Overseas, the matter is looked at from quite a different angle, and in U.S.A. especially, there are many companies which supply gas and electricity under the same organisation, indeed in some cases, a single company gives both supplies to several cities, and is thus able correspondingly to reduce overhead charges.

SOME engineers and business men in Great Britain are beginning to recognise that the modern methods of manufacturing gas and electricity are really complementary to each other, and that the ideal plant should combine them whilst at the same time producing all the by-products possible, including smokeless fuel. Certainly it may be assumed that we shall never get rid of the smoke nuisance until householders are supplied with a fuel that will kindle and burn in open grates without making smoke ; and this for the double reason that the housewife must have her domestic fire, and yet, as things are, quite half of the smoke of our urban atmosphere is due to such household fires. Present gas retorts do not meet this problem, for although the coke thus produced will burn, it is not suitable for ordinary house grates, as it does not kindle readily enough.

As a rule Town's Gas Works only supply one kind of gas, but there is growing up a demand for industrial gas of a different and cheaper quality from that which is supplied for illumination purposes. The large up-to-date gas works of the future will therefore need to supply a cheap industrial gas to such works as are built within easy reach, and thus we may move up into line with American cities, where natural gas is available for the supply of heat and energy. Gaseous fuel is ideal for heating, and it is in this direction that gas manufacture should develop, and if it is done efficiently gas can remain supreme in that field.

ILLUMINATION is relatively a small matter, and it may be hardly worth while arguing whether to use gas or electricity, but when it comes to power there is no question that electricity occupies an unassailable position. Gas can, however, be most useful in assisting to produce cheap electricity, and that is part of its destiny. The writer looks forward to the time when the boilers of large power stations will be fired with gas obtained from low temperature distillation plants, and with fuel made from pulverised semi-coke breeze that is too small to sell to householders. Wherever possible gas works and electric power plants should be together.

AT the Dalmarnock Gas Works of the Glasgow Corporation a five-unit MacLaurin plant has recently been installed to make 100 tons of smokeless fuel per day, and provide gas for benches of gas retorts. The results obtained from this plant are fully confirming those anticipated, and at the present moment about 30 tons of smokeless fuel are being made per day, and this is at present being sold at 28s. 6d. per ton at the works.

HITHERTO it has been the rule for private enterprise to try out new inventions and processes, Municipalities only adopting them when they have been proved successful elsewhere. It is therefore of special interest to note that the development of the MacLaurin process of low temperature carbonisation has been mainly brought about by encouragement of the inventor by the Glasgow Corporation, and especially by Councillor Brownhill Smith, O.B.E. In December, 1909, a sub-committee of the Corporation was appointed to enquire into and report on any process of gas making that would produce a form of coal residue available for use in ordinary domestic grates. Mr. Robert MacLaurin sent in a proposal, and although it was rejected by the Manager of the Gas Department, the City Electrical Engineer, Mr. Lackie, saw in the proposal the germ of success and reported accordingly. As a result it was decided in June, 1914, to build a unit to treat 20 tons of coal at the Port Dundas Electricity Works. Then after the war, a full-sized plant was erected at Grangemouth by MacLaurin Carbonisation Ltd., and hundreds of tons of coal were treated, proving that the plant could make a smokeless fuel which would kindle and burn in any type of grate, as easily as raw coal, at a price as cheap as coal where calculated on its heat efficiency. The gas was also found suitable for industrial purposes and firing steam boilers at a cost low enough to make it cheaper than using lump raw coal on the mechanical stokers of boilers.

IN September, 1923, the Corporation decided to instal a five-unit battery of MacLaurin producers at the Dalmarnock Gas Works, and the following is a brief description of same. Each producer is built of steel plates lined with fire-bricks except for a double steel cylinder at the top, and the whole is large enough to be capable of treating 30 tons of coal at a time. The heat necessary for carbonising the coal is obtained by consuming a little of the coal in the centre of its own mass, by admitting a carefully adjusted quantity of air, also a certain amount of steam is admitted to make some water gas. Coal is fed into a hopper above the double steel cylinder at the top, and the smokeless fuel is withdrawn from the bottom at regular intervals at a low enough temperature for it to be in the open. As the volatiles are driven off they are condensed at the top and carried away without being overheated beyond the temperature at which they are liberated, and this gives oil by-products which cannot be obtained at the much higher temperatures of ordinary gas retorts and ovens for making metallurgical coke.

AFTER the plant at the Dalmarnock Gas Works has run long enough to give the necessary experience, the Corporation proposes to build a plant at the Electric Generating Station to carbonise about half a million tons of coal per year. This is estimated to give enough gas to fire all the boilers in the Electricity Works, and at the same time produce 275,000 tons of smokeless fuel and 7,800,000 gallons of oil and other products. Afterwards it is proposed to instal the plant at the Govan Gas Works to supply cheap industrial gas for heating to the many works which are near by.

EVENTUALLY it is hoped to make enough smokeless fuel to supply Glasgow householders and thus to solve the smoke problem. It sounds an ambitious scheme, but the careful way in which the process has been worked out step by step and the knowledge we have of what Glasgow has done in municipal enterprise in the past, gives reason to hope that Councillor Brownhill Smith and his colleagues will be justified in their expectations. It will be observed that this whole scheme is an experiment in the direct association of technologists with Municipal Administrators without the intermediacy of Political, Financial or Commercial enterprise.

IN districts where metallurgical coke is made near towns the municipal gas undertakings as at Rotherham, Middlesbrough, &c., are using coke-oven gas to supplement that made in ordinary gas retorts. Now recall that, in 1921, 275,226 million cubic feet of gas were made by gas undertakings in England, Wales and Scotland, and that 4,471 million cubic feet of coke-oven gas were used for town's supply purposes. This is less than 2 per cent. of the whole, and yet this relatively small quantity of coke-oven gas represents the displacement of at least 400,000 tons of coal per annum from gas retorts. If coke ovens were co-ordinated with the Gas Undertakings within, say, a radius of 20 or 30 miles, many large communities could be wholly or partly supplied with coke gas, and this would effect a considerable saving in the consumption of coal at gas works. Considerable numbers of Beehive coke ovens are still at work in this country, and as these waste the gas as well as the by-products of coal, it is a national disgrace that they should be allowed to continue. It is to be presumed that if engineers were in Parliament to the extent that lawyers and political orators are now, legislative attempts would be made to check scandalous wastes of this kind. Burnley can be cited as a town where there are Beehive

coke ovens which, if replaced by modern regenerative ovens, would be able to give a large proportion of the gas required for the town's supply.

THE percentage of hydrogen in present-day coal gas is about 40 per cent., and in coke-oven gas it is above 50 per cent., and its effect is to lower the calorific value; also it makes the gas "poppy" when used in engines and has other disadvantages. Where coke ovens are too remote from town to make it profitable to lay down piping, then it is a commercial proposition to strip the hydrogen from the coke-oven gas and make synthetic ammonia with it. This is done in France and Belgium, Spain and Italy, by what is known as the Claude process, and the ammonia is used for many purposes including fertilisers. Sulphate of ammonia and other fertilisers are made on a large scale in Germany from synthetic ammonia, and the prediction may be made that we shall have to do it here to bring back our exhausted land into cultivation. It happens that the plants necessary to make these products are also the same as required for making dyestuffs and explosives, and it is because Germany developed such factories on a very large scale that she held a commanding position before the war.

HEAT and power are main factors in most modern industries, and the present highly competitive conditions call for the cheapening of these factors, if this country is to hold its own successfully in the world's markets, and this is especially the case in industries which depend on the use of gas and electricity in bulk. The super-power station of the future must set out deliberately to foster and give such bulk supplies; and it follows that there would be a regrouping of specialised industries dependent on cheap electric heat energy. Such special industries are found on a considerable scale at Niagara, U.S.A., Shawingham Falls in Canada, and Rhinefelden in Germany, and elsewhere, and they include, e.g., the manufacture of Aluminium, Carborundum, Alundum, and other highly refractory materials, also artificial graphite, various gases, &c. They are very profitable industries, and there is no reason why such industries should not be established in this country as adjuncts to coal-fed super-power stations, if the coal is used so efficiently as to bring the cost of power into line with that of water-power countries.

IN final restatement the writer visualises the super-power station of the future as being one that will supply industrial gas in bulk, as well

as illuminating gas ; electricity in bulk at high pressure for power, and at low pressure for electrolysis, and electric furnaces and the by-products that are available from coal, including smokeless fuel. And this implies a policy of regional planning for the provision of facilities to induce the gathering of industries requiring electricity and heat energy in bulk, in suitable locations around such super-power stations.

II. NEEDED HYGIENIC READJUSTMENTS: by Dr. C. W. Saleeby, F.R.S.E. (Chairman of the Sunlight League: Author of "Sunlight and Health," &c.).

FIFTY years ago the water-borne diseases were the perpetual curse of our cities. Typhoid or enteric fever was the type of them. In 1875, Disraeli, ridiculed by his half-witted political opponents for his "policy of sewage," gave us the Public Health Act and the boon called "primary sanitation." The water-borne diseases rapidly lost their power, and the decline of typhoid and the rest of that gang of murderers in modern times is the outstanding achievement of modern hygiene in this country. Such is the blessing of a pure river of the water of life, to flow for ever through our cities and their citizens.

BUT whereas we led the modern world in this particular, we signally lag behind in respect of pure air and light—doubtless the social reflex of our coal-driven machine industry. Yet there is no real reason why these original and continual necessities of life should rank below water ; and only custom-engendered blindness can regard the demands of primary sanitation as met by the provision of pure water, whilst the air is abominably befouled, and the light of life is blackened by the darkness which can be smelt in our cities of dreadful day. For lack of the primal necessity, sunlight, we die in vast numbers, far exceeding those due to any other cause, by reason of those plagues, characteristic of our place and day, to which I have given the name of the *diseases of darkness*.

RICKETS—the " English disease," as it is called upon the Continent—is the most typical of these : " la maladie de l'ombre par excellence," as Dr. Rollier calls it, translating and improving upon my phrase. The subject of a famous study by Dr. Francis Glisson in 1650, rickets was studied without cessation and without result until the publication in 1890, by Dr. T. A. Palm, of a masterly paper*, ignored and completely unknown until an American bibliographer directed my attention to it in New York in 1921. Palm showed by the geographical method that lack of sunlight is the leading factor in the causation of this disease. His discovery has been abundantly confirmed in the last few years, and has suddenly become a commonplace, even with physicians who scoffed at it almost yesterday. Palm concluded his paper with a series of propositions so sound and comprehensive that, when proposing the formation of the Sunlight League, in May, 1924, I had practically nothing to add to them, though a generation had elapsed. Here they are transcribed as constituting the " needed hygienic re-adjustments " for the total abolition of this common and calamitous disease of our malurban civilisation :—

1. THE establishment of means for having systematic and exact records of the sunshine in the heart of our great cities as well as at favourite health resorts. A sunshine recorder at an observatory on some hill-top near a large city is no guide to the amount of sunshine that reaches the streets and alleys of smoky cities. It is important that the sunshine recorder be of the form which indicates the chemical activity of the sun's rays rather than its heat.

2. THE removal of rachitic children as early as possible from large towns to a locality where sunshine abounds and the air is dry and bracing.

3. THE establishment of a sanatorium for poor rickety children in some such locality, where the severe development of the disease may be averted and much life and health saved by timely treatment.

4. THE systematic use of sun baths as a preventive and therapeutic measure in rickets and other diseases. . . . . .

6. THE direction of the public to the appreciation of sunshine as a means of health. . . . . Let people understand that sunshine in the dwelling not only reveals unsuspected dirt, but is Nature's universal disinfectant as well as a stimulant and tonic. Such knowledge will also stimulate efforts for the abatement of smoke and for the multiplication of open spaces, especially as playgrounds for the children of the poor.

* " The Geographical Distribution and Aetiology of Rickets " (*The Practitioner*, October and November, 1890).

THIS paper must not take the form of a summary treatise upon the diseases of darkness—or *Skiapathies*, as they may be called for those who think that English cannot be the tongue of knowledge. But it is proper to indicate the scope of the issues here involved. The water-borne diseases, as our grandparents knew them, were nothing compared with the diseases of darkness as they are to-day. Rickets, being merely a disease of infancy and childhood, may excite but languid interest in the adult who has no sense of the future, nor of trusteeship for man and destiny. But he may speedily be aroused when, for instance, he is touched in the only sentient organ remaining to him, which is his pocket, by the statement that under our Insurance Act we spend a million pounds a year on sanatoria for pulmonary tuberculosis in this country, with negligible results : say, according to the best official statistic, fourteen recoveries in a thousand cases.

TUBERCULOSIS is the prince of the powers of darkness. My confident assertions during the past five years as to its cure and prevention by sunlight, based on the evidence of Dr. Rollier's clinics and school in the sun at Leysin, in Switzerland—established respectively in 1903 and 1910—have repeatedly been met with suggestions of exaggeration and stunt-making here. My apology now is only for inadequacy of statement, for shortcomings in the effort to bring home the lovely truth, to spread the light of life.*

BUT tuberculosis is very far from being the only disease of darkness (and atmospheric dirt) that curses us. In this country our characteristic plagues to-day are air-borne, and attack the air-system, just as the water- and food-borne used to attack the food-system. The winter is their opportunity. These respiratory diseases should be recognised as, in a veritable sense, a well-defined entity. At all ages they attack us. For infancy, nowadays, it is the first and not the third trimester that is most dangerous, and one must no longer speak of the " deadly third quarter of the year," as one used to do twenty years ago, but of the deadly first quarter. The elderly are in the same plight as the infantile, and the other ages suffer only in less degree than the very young and the old.

IN our vital, or mortal, statistics, the nature of the facts is obscured by that differential diagnosis and those achievements of bacteriology

* See the writer's SUNLIGHT AND HEALTH, with an introduction by the late Sir William Bayliss, F.R.S. Nisbet & Co., London, and Putnam's, New York. (1923; Second Edition, with new matter, 1924.) 5s. net.

which, of course, we need and welcome, but which prevent us from seeing the wood for the trees. Thus, having discovered the tubercle bacillus, we name a disease, tuberculosis, which may attack, for instance, the skin or the lungs : but *pulmonary* tuberculosis is pulmonary disease. Again, we define pneumonia, but that is also a disease in which a germ attacks the lungs. The air passages leading to the air spaces in the lungs are called bronchi or, when very small, bronchioles. But bronchitis and bronchiolitis and broncho-pneumonia are all diseases of the air-system, and it is proper that, whilst we distinguish, we should also correlate and classify. The total toll from microbic attacks upon the air-system—or respiratory system, if you prefer—is then seen to be stupendous. Nor has the record been here completed, for I have not mentioned the coryza, or cold in the head, which may or may not be regarded as an important part of our problem, according as whether or not we are really informed about it. The subject is indeed most important and curious, and can only now be merely named. But add its weight to the burden of our present argument.

THE customary figures by no means fully represent the facts, but they are astonishing enough. Here they are for last year in England and Wales :—Number of deaths : Bronchitis, 37,786 ; Pneumonia, 38,970 ; other diseases of respiratory system, 5,857 ; pulmonary tuberculosis, 32,690. In another form, observe a comparison : Malignant disease (cancer and sarcoma), 106 per 1,000 deaths ; " respiratory diseases," 174 per 1,000 deaths, to which add pulmonary tuberculosis, 69 per 1,000 deaths. Even to-day, with its extraordinary increase, cancer does not account for anything like half the number of deaths due to respiratory disease. I have refrained from adding the deaths from measles and whooping cough, which usually kill by secondary infections of the bronchi and lungs : nor have I included any of the deaths attributed to influenza.

PLAINLY, our vulnerable point in this country nowadays is the air-system. We deplore the ravages of tropical disease—yellow fever, sleeping sickness, plague and so forth : but any one abroad who valued his life and proposed to visit our country might well tremble at the awful risks of death, usually very speedy, which he must run from the respiratory diseases.

IT were folly to ignore or underrate bacteriology. All honour to it for its past and its future, but what about the natural *defences* of our air

passages and lungs? Look at the seasonal incidence of the respiratory diseases, and we realise that the problem is climatic or meteorological. Our bacteriology has frequently obsessed us. Our pharmacology and materia medica, in this field, are pitifully futile. It is a reproach to medical science that we go on giving this and that cough mixture or expectorant to these cases, and watch them live or die, with impotent and pretentious clinical gestures, whilst the one factor worth mentioning is the nurse who may or may not husband and succour the patient's strength. A future generation will be as aghast at the ravages of these diseases and our present complacent unconcern to *prevent* them, as we are at the story of the Great Plague of London, or typhoid and typhus fifty years ago.

THE actual condition of our respiratory apparatus consorts with the statistical facts of our destruction through this vulnerable area. It is almost true that everyone, half the year, has a "snuffle." The interior of the nose is almost rarely normal in adult life. Operations for "tonsils and adenoids" are incessant. That is to say, the upper portion of the respiratory tract shows chronic disease, deformity, degeneracy in many forms and in innumerable instances. The larynx participates, and clear, resonant, easily-produced speaking and singing voices are so rare that their fortunate possessors are remarked upon wherever they go. How many middle-aged men can laugh heartily for as many as two seconds without a fit of coughing as a *coda*? As for our lungs themselves, we may refrain from comment on the number of chests more or less malformed owing to past rickets, and on the large percentage of lungs showing, on autopsy, more or less perfectly healed or quiescent evidence of old tuberculous lesions; but we should know that, whilst the infant's lung at birth is pearly white, all our citizen lungs are a dirty grey, infiltrated with coal smoke: a fact of especial interest now that the students of industrial hygiene are concerning themselves with the factors, such as dust and other foreign particles, which are so largely found to be the truly underlying *causes* of tuberculous and other infections.*

LET us ask what is this stuff which we inhale on a typical winter day in any of our cities. Atmospheric air is the basis of the mixture, no

* A striking and valuable paper, from which much may be hoped, is that on experiments on dust inhalation, by three Doctors Drinker, from the Departments of Physiology and Ventilation, Harvard School of Public Health, published in the *Journal of Industrial Hygiene* (Harvard Medical School), October, 1925.

doubt, but what of dust, soot, tar, dried equine excreta and the new and noisome products of motor-cars, about which latter very much will, ere long, have to be said and done? Is this the breath of life or poison-gas? I suggest that though we cannot change our natural climate, and though the new "artificial Riviera," with ultra-violet lamps, &c., to be built in Berlin can never be the equal of the real thing, yet by far the greater part of the respiratory death-rate is preventable *now*: from now onwards, by means of assured and simple knowledge, which already is, or should be, common property. For instance, there is the simple statistical fact of a sudden and monstrous rise in the pulmonary death rate always following a few days of fog in all our cities.

WE must clean our skies. We must restore to our mal-urbanised millions that unique and incomparable antiseptic, the sunlight, which alone serves both to kill pathogenic microbes and to strengthen our resistance against them. We must restore pure air and light to our cities, or surrender the leadership of mankind to other nations, which are now building cities where pure water, clean air, unsullied sunlight and uncontaminated food will be the common heritage of all their children.

WE must have a stream of Power, from some source or other, flowing through our country for its life. After many years of study and much travel as a student of urban hygiene, I am prepared to vote for waterfalls and hydro-electricity "every time." The theme is pleasing: it is not entirely irrelevant to our country; and it is not least worthy of admiration here because it all came out of the brain of our Faraday. But we have no Niagara, nor can we contrive to plant any such at suitable intervals in our country. Nor, to cut a short story shorter still, have we anything else but our coal. For us it is Coal or *nothing*.

AND were there no choice but to use it as we do, we might well repine, and reproach our fate in that so many other lands need but put the modern equivalent of an old mill-wheel in a stream and have all they want of Neotechnic, as Professor Geddes calls it; whilst we must dig black and dirty masses out of the bowels of the earth and destroy ourselves in using them. Here is the stored-up sunlight of past ages, but in order to use it, seemingly, we must burn the stuff, and thus obstruct the sunlight of the present. Inventors have tried to solve

this problem in terms of the burning of coal; their devices are necessarily and always inadequate.

THE true solution must depend upon the true view of the nature of coal. If some barbarians from the South, invading our country and finding it cold, should burn the contents of the Bodleian Library, which are certainly combustible, we should reproach them for seeing nothing but fuel in such a priceless *thesaurus*. Our coal is, in the physical realm, no less precious a treasure-house, and to regard and use it as a fuel is no less barbaric and wasteful an act. It was made by Life, and is crowded with the incomparable products of that Master-Chemist. Professor Geddes has eloquently alluded to them in his introductory paper. There is no end whatever to the versatility of these long-stored riches. Once we appreciate them, we cease to sigh for the cataracts of Finland or cascades of Switzerland, which are sources of power, but no more. Our coal is a vast source of power, but infinitely more; and the chemist is not yet born, in a Berlin suburb or a Polish ghetto, who can construct for our needs all the rare and potent compounds made by the giant ferns of long ago whose bodies we call coal.

THE answer to the question, How to Clean our Skies, is therefore, Cease to Burn Coal; and in furnishing that answer we also solve a hundred other questions, thanks to what the coal yields us. In chemistry class, all but thirty years ago, I learnt, as anyone may, that one should not burn coal, and I have never bought an ounce of coal in my life. There is no real and ultimate solution in automatic stokers, powdered coal, devices for catching and consuming smoke; there is nothing but a few trifles in Lord Onslow's Bill for Smoke Abatement, prepared for a recent Parliament; and there will be little more in the Bill promised us by Mr. Neville Chamberlain. The promised Bill assumes and accepts the burning of coal, and it does not even profess to touch the resultant problem in the domestic chimney.

BUT the domestic chimney is worse than the industrial; if we look at the country as a whole, it produces far more than half the smoke, and that of the more objectionable kind, being produced at a lower temperature. There is no real remedy, but the radical one, to stop burning coal, and to distil it instead, like intelligent beings. Here the argument which has met me during twenty-three years of agitation

on this subject is that we cannot recondition all our houses. We might use the energies of some of our unemployed to worse purpose, one would suppose. But at least we can and should build our new houses aright. Under recent legislation that is a question for local authorities and not for the Ministry of Health. Many of them are doing their duty in this respect, but many are not.

THEY and the nation as a whole continue to acquiesce in the policy whereby we waste most of the energy in our coal, destroy our sunlight, spread the diseases of darkness, and corrode our noblest national monuments by means of the sulphuric acid derived from the ammonium sulphate in our coal—" fixed nitrogen," a superlative fertilizer which should have gone into our soil to grow fresh food full of vitamins, for our crowded urban populations, now largely mal-fed on stale rubbish, which may stuff the stomach but stifles the life.

RECENTLY, it is true, a deputation of employers approached the then Minister of Health and told him that they did not know how to conduct their industries without the production of smoke. Of course they do not. Such assurances, from such a source, may be unhesitatingly accepted. But what chance is there for our industries, in competition with other countries, if they are to remain without question under the control of the acephalous capitalism which is not merely a contradiction in terms but a national menace of the most ominous description. And yet, if we put our brains, wherever they may be found, into our coal, and really used all its priceless heritage, might there not be enough and to spare for life, of necessaries and more, for everybody ? " Thou, O God," said Leonardo da Vinci, " hast given all good things to man at the price of Labour." The labour now needed is that proper to the status of him in whom, too often, and always after long years of success, the Godlike reason fusts unused.

III. THE PLANNING OF A NEW COALFIELD IN EAST KENT: by Professor Patrick Abercrombie, President of the Town-Planning Institute.

At first glance there may not appear to be much use in describing the proposals and ideals which have been set before the projectors of a New Coal Field when the problem of immediate urgency is the peace and prosperity of the Existing Mines. But in making adjustments and ameliorations of existing conditions there should always be present a final aim, however distant; and so perhaps the suggestions which appear in no way impossible of realisation in East Kent may be useful to put before the eyes of those who are attempting to solve the present difficulties that are largely the result of uneconomic methods of production and unsound conditions of living.

East Kent, though a blank slate industrially, is like the greater part of these islands a very complex palimpsest of civilised effort, past and present. The evidences of its history, still visible to the eye, are among its present features or assets, containing such treasures as two of the greatest Roman forts, Reculver and Richborough, the metropolitan Cathedral, two of the Cinque Ports, Dover and Sandwich, the castles of Deal and Walmer and a number of villages of typical English beauty. Its modern occupation or economic rôle, apart from agriculture, is of course the re-creation and re-energising of London workers by means of its ring of seaside towns, beginning with Whitstable and including, with their lesser satellites, Herne Bay, Birchington, Margate, Broadstairs, Ramsgate, Deal, St. Margaret's-at-Cliffe, Dover and Folkestone: all of them household words and many of their names embedded in our history and literature. The coastal towns and the use they make of the interesting and beautiful country inland were the two factors that drew attention to this coalfield and, in addition to modern advances in standards of amenity, more particularly set in motion a plan for securing efficient coal exploitation without its old attendant evils of dirt, discomfort and discontent.

The preliminary investigations for this region naturally were topographic: geology and orography are the basic determinants of future industrial development. The location of the probable pitheads, about which the Industrialists were, not without reason, reticent and uncertain, was the most difficult and important problem, coupled with

anticipations of the duration of the coalfield, the probable ultimate output per annum and the order in which its various pits would be opened up. This basis of the plan is confessedly speculative but it was felt that, with the possible exception of London, the future was more clearly indicated than that of any town in this country.

NEXT, was necessary speculation as to the ultimate destination of the Coal: its nature and estimated quantities of different types being the guiding factors. Was it likely to be an export coalfield whether for home or foreign use: was it possible to turn the whole output into electric energy: was it probable that smokeless fuels would be manufactured and a mass of by-products and ancillary industries produced?

FINALLY there was the simultaneously discovered, but more tardily appreciated, Iron Ore deposits presaging, with coal and limestone available, a working arrangement, having also coastal facilities for importation of any needful foreign ores.

UPON all these data was erected a future population plan, fairly definite as to coal working, more problematic as to iron and ancillary industry; but still close enough to show that the populous fringe of the region would be balanced by an equally populous interior where is now a group of rural districts as sparse and remote as any within 60 miles of London.

THE grouping of the population was then to be considered. Among many determinants four may be mentioned: topographic, social, conservative and economic. *Topographic*, because there are large areas of low-lying land which will be further depressed by subsidence, making housing impossible near certain pits; *Social*, because it had to be decided whether one village per pit and a scattered population for other industrial workers was the best, as it was the most natural disposition; or whether larger units of population, new Towns rather than new Villages, were preferable, giving opportunity for richer social structure and placed at points where several pits could be equally well served; *Conservative*, because the actual placing of new populations and the increase of existing villages and towns would materially alter the appearance of the country side and, as aforesaid, conservation of amenities is of more patent (though of course not of more actual) desirability here than elsewhere; *Economic*, because questions of drainage,

access, water supply, &c., vitally affect certain locations or groupings and must be studied where every penny is now to be saved in an industry in which houses are as much part of the machine as the Pit.

THESE four factors determined the Grouping of the Population into fewer and larger communities, though they did not point to the extreme solution of one single new Industrial Town, focally placed. Seven or eight new Towns have been proposed with a total population of about 180,000, in addition to which of course there will be the very considerable growths of the existing towns. Every region must have its metropolis in which the higher functions of Education, Art, Business and Pleasure are placed : just as Cardiff is off the coal measures in S. Wales, so Canterbury, the inevitable head-town, is on one side of this coalfield ; its sudden change in existence will of course require the utmost care and watching if its present character is to be conserved while at the same time it fulfills its new rôle.

HAVING considered the basic essentials of Work and People and the Place where each can best be carried on, the next phase is to indicate the machinery by which these can be ordered : Zoning and Transport are the two engines of achievement which bring these speculations and prognostics within the realms of legal procedure. By Zoning we mean those powers under which we limit the user of land to the purpose for which it is most fit, curtailing to this extent individual freedom. Zoning usually works by restrictions, and here the principal restriction will be against houses within a radius of half a mile of the Pitheads, all noxious trades to be within these circles, except for certain areas laid aside for Blast furnaces which may require to be near the coast rather than at the pithead. All houses are also to be prohibited on the low-lying land. But in East Kent it is hoped to use the essential idea of zoning in a much more positive sense : the programme sounds ambitious, almost utopian, but it is quite probable that it will be realised ; it is for the local authorities to purchase the sites, with ample margins, for these new towns and to preserve the remaining land, not required for industry, to agricultural use. If people wish to build, except for agricultural purposes, they will be forced to certain sites ; but here they will find cheap land and every advantage of municipal services. The local authorities or general public will inherit all increment value of the residential areas coming from business and light trades : the owners of agricultural land will be compensated for

not being able to sell a ***fraction*** of their property for building by having their ***whole*** land immensely increased in value by intensive farming and urban markets at their doors. Incidentally, though by no means by accident, the countryside will be preserved from indiscriminate building and consequent spoliation; its natural beauties will be retained and even its rural character will persist. The Towns themselves under one ownership can be finely planned and developed harmoniously: they will be frankly artificial and even sudden creations like the colonial towns of Rome or the mediæval cities of Edward the First; but it is hoped that they will be far more varied and incidental to the lie of the land than were those somewhat stereotyped new towns of the past.

It may seem remarkable to some people that Transport should in these notes be left for so late mention. But in spite of the popular notion that roads *are* the Plan, the truth is that Roads and Railways should subserve requirements of industry and residence and, especially in East Kent, of recreation. In a word it is not until you have generally located your Pits and Towns that you can plan your railway extensions and new roads. These two can now be knit into a concerted scheme which the consolidating of the coal interests has enormously helped, as the usual antagonism of rival pits each fighting for shortest carriage routes, does not exist.

The location of a Port or Ports for the region is one of the major features of the Transport scheme: this is perhaps the least definite of the factors of development. In the case of South Wales it has been seen how Barry could come into competition with Cardiff: here there is the further uncertainty as to whether the Port is required for exporting of Coal or chiefly for Steel and other products. Reculver, Richborough (or Sandwich), Deal and Dover have all claims and advantages; the two former, illustrating the persistence of Roman sites in spite of immense geographic changes: Deal, a seventeenth century port needing re-creation: Dover, as Cinque Port and during the 19th century a naval and passenger harbour requiring remodelling for industry.

In addition to these major factors there are those aspects of the regional plan, of no less importance, but of a more consequential nature, most of them classed under the general heading of Amenity.

Open Spaces and Playing Fields and accessibility of beautiful Natural Features must be knit together into a Regional Park system: it is essential that these be acquired before the higher values have been created by more intensive use of the land. There is no need to stress the impossibility of securing any adequate system without Regional co-operation both in planning and in purchasing.

THE methods of working the Pits, whether smokily or by electricity, and the provision of Pithead Baths are also intimately bound up with the amenities of the new region. Are the pits to diffuse smoke and the miners to bring dirt into their houses and public conveyances, or are both to be consumed on the pit premises and so give a chance to a clean countryside and house? Indeed this whole projected plan is based upon the assumption that Industry is to be conducted in a dignified and orderly manner. Untidiness is extremely infectious; a few years of dirty and squalid industrialism and the evil effects spread over a whole countryside. It is then infinitely more difficult to introduce pithead baths and smoke prevention. The English countryside and village are probably the neatest in the world, and it is satisfactory to find that pithead baths have already been welcomed by men who must feel that the symbolism of a smutched face and pit clothes on their journey home is more than skin deep.

THERE are, of course, the other features which will be worked into this plan, Education,* Public Services, Social Institutions, &c., for certain of which it is hoped that money from the Miners' Welfare fund will be released. But on the whole it is claimed that the plan itself is an economic one: i.e., if the right thing is done with sufficient boldness at the start and a stand taken against old and wasteful methods, the plan will justify itself on financial grounds as well as in social results.

THE scheme is a large one and it is probable that it would never have matured if it had not been for the massive intellect and passion for order of the late Lord Milner. The Man happened to be found waiting at the very spot where he was wanted: it is true that he used his Kentish Manor Farm to take his retired leisure in a trim garden; but he was ready and eager to forego that leisure and to bring a mind that had been occupied with ordering the wide spaces of the earth and directing the affairs of a nation at war, to bear upon a little patch

*A University at Canterbury is predicted.

of England which he saw could be made a sample of the new order of existence. Lord Milner's advisory committee, formed with the help of the Archbishop, brought together the interests of the General Public, as represented by the Local Authorities, the Industrialists, the Miners and the Land Owners and showed them that it was essential for them to combine together to create a Plan instead of striving against each other to produce a Chaos.

PART II.: THE CONDITIONS OF EUTOPIAN REPAIR AND RECONSTRUCTION.

I. ECONOMIES: REAL AND FICTITIOUS.*

§ 1.

IF there existed a community is which not honesty alone, but all the graces and perfections, grew as natural flowerings of life, we should say that community had achieved civilisation. Well, a stage of social science has long been emerging, and is now fairly clear, which reads the rise, decline, and renewal of civilisations afresh, interpreting the chequered story as a drama of successes and failures in the coming together, for co-operant activity, of rustic types with their respective nature-occupations. The concert of efforts required for true city-building, and maintenance, is seen to be the crux of the matter. How to compose a vision of life, and construct a scheme of values, effective

*The discussion starts afresh here, at a point which calls for explanation. The sociologist of the Le Play tradition—as Professor Geddes points out in his Introduction—supposes that we who dwell in towns and cities, fashioning the course of civilisation by our lives and activities, are, all of us without exception, uprooted rustics, retaining, continuing, often intensifying, something of the qualities, and also something of the defects, of our prototypes. On that assumption it becomes of first-rate importance to ascertain the economics, the psychology, the ethics, of the series, Miner, Woodman, Hunter, Shepherd, Peasant, Fisherman, for these are our prototypes, primitive in nature, yet perennial in every countryside. The economics, psychology, and ethics of this rustic series have been worked out with some approximation to fullness (See the file of LA SCIENCE SOCIALE, *passim*, and for briefer statement THE COMING POLITY, by Branford and Geddes, chapters IV.–VI.). The gist of the matter can be briefly stated. For the Hunter, success and survival are in terms of his bag of game. His personal and social ideals, necessarily associated with infliction of wounds and death, will be those of the warrior; and this for other reasons also. His game-supply increases with the square of his hunting radius. The Hunter is, therefore, an expansionist by occupation. He is Nature's proto-imperialist. For the ever-pressing encroachment of neighbouring game-supply areas drives hunting tribes to war as a chronic recourse. In sharp contrast to these hunting ideals of wounds and death, quantitatively estimated, stand those of (1) the Shepherd, for whom success and survival are in terms of quality and increase of life, since prosperity comes of larger and better flocks and fleeces; and (2) the Peasant, in whom habituation to sowings and reapings, in co-operation with the seasonal fertility of Nature, implant mental and moral values also in terms of life-abundant. Assume as the Le Play hypothesis does, that these elemental dispositions (arising from the interplay of Place, Work, Folk), renewing themselves from generation to generation with resulting fixation of mental habit and corresponding growth of tradition, persist even in urban variants of the rustic types, and we begin to see the civilisation-process as recurrent dramas in the clash of tendencies to war and peace, focussing now around the hunter-warrior type, and again around the shepherd-peasant type. But since both shepherd and peasant readily revert to the lethal mentality of an immemorial hunting ancestry, the bipolar drama of peace and war is correspondingly complicated by recurrent banditisation of the shepherd and peasant types. How these reversionary traits tend to renewal in every order of urban civilisation thus far manifested in history, and more especially under our modern pecuniary-mechanistic culture, has been worked out in various books and papers. (See especially ECONOMIC ROOTS OF EVILS AND IDEALS in the SOCIOLOGICAL REVIEW of July, 1925.)

to integrate into unity of purpose, the economic systems arising from our nature-series of hunter, shepherd, peasant, miner, forester, fisherman? That, for economist and anthropologist in the Le Play tradition, is the practical problem at the basis of all civilisations. Here is our *pons asinorum*, over which runs the road from rustic to urban life; from the simplicities of primitive peoples to the complexities of modern civilisations. Only by patient and persistent efforts to climb this secular bridge can we hope to debouch upon the road to social re-integration. We must move forward with miner, forester, fisherman and hunter; but the secret of ascent is with pastor and peasant.

In the shepherd and peasant regime, there is ever renewed the quest of a dominant harmony attained by conversion of predatory and emulative impulses, and their consequent incorporation into the larger human vision of tenderness and workmanship. The manifest condition of success in this order of integration is not mere avoidance of war, but assured and lasting peace. The chronic allies of frustration are three. There is the ceaselessly active impulse to war amongst hunting folk. There is the standing temptation amongst pastoral and agricultural communities, and their urban offshoots, towards reversion and lapse into some variety of the hunting regime. And finally, there is the strange facility with which men of the other nature-economies—miners, foresters, fishermen—swing now to the vital pole of shepherd and peasant, and thence again to the lethal pole of hunter and warrior.

The last is not the least significant of the three self-renewing obstacles in the path of civilisation. To illustrate, take the case of the woodman, or forester. His occupation prompts to a picture of attainment in which the mechanical element is dominant. The felled tree, lopped and topped, and cut into segments, is man's natural roller. Simultaneously with the elaboration of tree-sections into all kinds of wheeled contrivance goes an infinitely expanding development of tool inventions, cut and shaped from the most inviting of all the harder substances by which the human hand manipulates environment towards purpose of life. In short, the woodman becomes the engineer; and the true engineer, if you scratch him, discloses the primitive woodman. His natural type of economy, growing out of occupational habit, becomes an economy of energies. To multiply man's command of physical energies, and to divert human labour from drudgery of effort

to direction and mastery of tools and machines—these are impulses ranging from latency to dominance in the life of the engineer. They grow habitual and dominant, (we may assume) in proportion as he has renewed in himself the primitive forester by a wood-craft apprenticeship. And incidentally may be noted here the "Wood-craft Chivalry" movement as a happy instance of the differential development which Boy Scouting needs in order that it may come to maturity.

THE wood-craftsman's occupation, and its associated scheme of folk and family life, seemingly gives rise to no vision of fulfilment adequately compelling in its emotion of unity. His impulse and habit of energy-economy therefore tend to catch and reflect the rhythm of whatever music of life happens to be dominant in his day and hour. Thus, at the outset of the Industrial Revolution, we see the engineer as right-hand man of the manufacturer. As the pecuniary phase of the machine-era develops, the engineer is increasingly found lending his weight to the elbow of the financier. During the war he stood immediately behind the military chiefs, and applied his mind to the devising of an energy-economy adapted to the warrior's vision of victory. After contriving such immediately pressing economies as the readjustment of factory production, and transport, from pecuniary to military criteria, the engineer addressed himself to the supreme economic problem. That was, and is, the maximising of our coal energies.

THE basis on which he worked was the latest available figures of approximate precision, those of the year 1913. The conclusions reached are given in a document called the Report of the Coal Conservation Committee, and they are expressed in units of energy. First are given the units of energy actually made available from the coal used to drive our machinery and locomotives in 1913; next are calculated and stated the units that would be available, if the technological economy were applied, so to speak, pure and simple, and not in subordination to the pecuniary scheme of values. The figures are given in horse-power hours, but for better comparison with the manual labour to which most of us are accustomed as a measure of energy, let us translate the engineer's horse-power-hours into man-years. Well, the total coal used for power in stationary and locomotive engines in 1913 yielded 140,000,000 man-years of energy. If, however, certain economies (chiefly made by turning coal-energy into electricity)

were instituted, which the committee declared to be practicable, then, by burning no greater quantity of coal than in 1913, a yield of energy could be secured equivalent to about 300,000,000 man-years. That means, other things being the same, and raw materials being available, the national output of goods could be increased by the labour of about one hundred and sixty million pairs of hands, without extra mouths to be fed, and therefore, on the conditions assumed, *without extra cost for wages*—an economy indeed.*

THESE estimates and calculations naturally necessitated prolonged and penetrating research into many kinds of engineering problems, electrical, hydrographical, geological, as well as mechanical. They also necessitated elaborate study of the implied readjustment of business interests. And thus the Committee, though set up in 1917, did not report till after termination of the war. But how different the political atmosphere! In the war it had been charged with a vital impulse, which in the after-war slackening became transformed into public apathy. Ministers, M.P.'s, and journalists were consequently relieved from the harassing war-strain of thinking in terms of real economy! Yet that release of political strain is but one of the reasons which caused the Report of the Coal Conservation Committee to be put on the shelf alongside a whole library of similar documents, addressed to the problems of a national economy, made to fit other than pecuniary ends. The substantial and standing obstacle to a project of Coal Conservation is not in the mind of cabinet ministers, but in that of money-hunting marketeers, which is to say, a public reared in the pecuniary culture. It is we, the educated public, who culpably stand in the way.

FOR proof, or rather illustration, reflect upon the fact that practically the whole of our electric supply is produced from coal. Several hundred joint-stock companies are in the business, each with its own share-tokens, or playing-counters, adapted to the game of finance. Each company buys its own coal, burns it at its own generating station, distributes electric current over its own system of conduits and wires. The more numerous the separate companies the less the public economy but the greater the opportunities for financiering operations. The promoting, organising, launching, of each company affords a utilitarian

*The scheme of the Coal Conservation Committee is used here merely for illustrative purposes. The reference is not to be taken as support of that scheme in preference, for instance, to the scheme put forward by Professor Desch.

mask for the business of exciting our speculative impulses, and thereby selling the consequent paper " securities " as gaming counters. Next follow the thrilling hopes and benumbing fears of rising and falling security quotations, as the rivalries of competitive companies are abated, or intensified, in successes or failures for " working agreements," for sale or purchase of " control," for " amalgamation " towards monopoly, and other kinds of market manipulation. In such ways does the business of converting coal-energy into electricity lend itself to modes of finance, which disguise a reversion to the hunting vision of fulfilment. And because our current civilisation so copiously affords these seductive temptations, we are not only willing to put up with the associated wastes and frictions, but are doubtless driven unwittingly to promote types of business organisation of which the electric supply companies afford a representative example.

THE detail of our electric " economy " is worth noting. A man lives, say, at Hampstead ; he cooks his breakfast (if he can buy current sufficiently cheaply) by electricity supplied from one station ; he travels to his office by electric train supplied with current from another station ; his office in the city is supplied from a third station ; probably he gets his lunch at a restaurant supplied by electricity for light, and perhaps power, from a fourth station ; if he has to leave his office and visit other people in the afternoon he travels possibly by a train supplied from a fifth station ; he may eat his dinner at night in a West End restaurant supplied from a sixth station ; go to a theatre supplied from a seventh station, and so on. Thus an inhabitant of London may quite well require throughout the day anything from five to ten different sets of electric plant to supply his needs. In other words, the capital costs of supplying him are increased many times over, perhaps five to ten-fold. This wastage is apart altogether from the fact that, due to the great number of systems and stations in London, the plant used is of exceedingly small size, and therefore the efficiency as regards coal consumption is very low—in fact the average efficiency of conversion from coal to electricity in London is said to be only a third of what it would be under a modernised scheme.* What applies to the London area applies more or less to other parts of the country, if we substitute the factory for the office.

*Under a scheme adopted since this was written, a process of modernised unification in the electric supply of London has begun, but how it will proceed under the direction of financiers and engineers mentally habituated to the canons of the pecuniary and mechanistic culture remains to be seen.

§ 2.

By the rude blast of war we were awakened to the advantage of substituting, for our pecuniary economy, a real one, because the struggle for national survival evoked—while the fighting lasted and the end was uncertain—an integral vision of life, at least within the bounds of our armed alliance. And, the war being so largely a contest in the concentration of physical energies, we called upon the engineer to contrive an integral economy in the use of our national store of coal-energy. But, alas, the engineer, like the rest of us, reverted to the pecuniary economy, when the market picture, at the close of the war, replaced the vision integral in the focus of attention!

In similar testimony may be cited the history of another offspring from war's temporary awakening to integrity of vision. Under belligerent impulse to real economies the Afforestation Commission came into being. Now sun-given energy, accumulated by the carboniferous forests we call "coal measures," is the main pillar that supports our national life and culture. But the perennial catch of current sunlight by our growing timber is one of the minor pillars. And the rapid depletion of our forests during the war created sufficient alarm to call for a certain application of forethought towards forest renewal. The Afforestation Commission was created for the purpose. A modest sum of £3,500,000 was allocated, its expenditure being spread over ten years. This was the estimated cost of afforesting 1,800,000 of the twelve to thirteen million acres of uncultivated land in Great Britain below an altitude of 1,500 feet. But larger projects were mooted. An interesting estimate of returns, for instance, was made on the footing of ten millions acres being afforested at a cost of £40,000,000 spread over a generation and a half. The calculation affirmed, at the end of 70 years, a standing head of timber to the credit of the nation, worth between seven and eight thousand millions sterling, which is about the present figure of the national debt. Looking to the possibility, anticipated by foresighted foresters, of a world famine in timber before the end of the present century, this estimate may perhaps be taken as not outside the range of verifiability.*

*The United States may be viewed as typical of a world-wide process. Professor Toumey, of Yale, predicts an American timber famine within fifty years. He points out that of 822 million acres of virgin forest originally possessed by the U.S.A., only 137 million remain, and these in relatively inaccessible regions. The present annual growth in forest regions is estimated at six billion cubic feet, and the annual removal by actual cutting, by fire, and by other agencies, at over twenty-six billion cubic feet.

THESE figures, even at a heavy discount, afford a striking instance of what wild nature will do for man, if he in turn will act up to the optimum of human nature in cultivating integrity of vision; for thus only can be evoked that emotion of idealism which impels to a real economy. Engineers, of all people, should surely uphold this practical blending of natural science and human culture in application to future supplies of vital material. And so the famous National Committee of post-war economy might have been expected to touch the Afforestation Commission with a friendly hand, for, out of five members on the Economy Committee, two were engineers or of the engineering tradition, and one of them was Chairman of the Committee. Yet the fact is that this Committee unanimously recommended the disbanding of the Afforestation Commission, and the stopping of all expenditure on tree-planting! So once more was illustrated the tendency of a technological economy to subserve whatever way of life, or death, happens at the moment to be in the ascendant. The three other members of the post-war economy Committee, it should be explained, were gentlemen given to the practice and tradition of finance. Two of them, indeed, were men of lofty eminence in that world. By ardour of devotion in its cult, they had won through to its Paradise in the Peerage.

THE economies schemed by this memorable body, it may be remembered, effected a putative saving of something less than £90,000,000. That sum was the pecuniary booty of an economic "axe" vigorously applied to the chopping of every State expenditure ranging from battleships to breeding stock, and running through the building of homes for labourers' families down to the supply of milk for nursing-mothers in poverty. The figure invites comparison with the Coal Conservation Committee's subsidiary saving of something more than £100,000,000 per annum on *incidental minor wastages* preventible by adoption of their great power-economy scheme. This estimate of an incidental economy amounting to a hundred millions was but one of the bye-products accruing from the central gain of 160,000,000 man-years to be achieved by burning our machine and locomotive fuel on the coal fields, and distributing it as electrical energy from Regional Stations. Is a money statement of the main economy wanted? Well, a rough estimate, or rather guess, can be reached by taking the net output of the 160,000,000 new automata-producers at (say) £50 a year, and deducting such sum as might represent interest

and sinking fund on the cost of the new installations—with similar charges to pay liberal compensation for disturbance of vested interests, and allowing for a big margin of over-estimate in the engineer's calculations.* The net gain (*on the given assumptions*) might perhaps be put down at anything up to (say) £3,000,000,000 a year; in short, a possible doubling of the present national dividend. These and the previous figures are of course to be taken merely as illustrative tendencies. In all such matters quantitative estimates are notoriously illusory, and money figures doubly so.

Now suppose the Coal Conservation Committee could have issued its Report while the crisis of the war was still undecided! The sequel can be predicted with considerable likelihood. Persons of imaginative gift and emotional temperament would have vividly prefigured the project actually at work—and clearly discerned its anticipated effects in the raising of the national potential. They would have impassioned others with their vision of attainment. Men of commanding intellect and technical skill would have addressed themselves to constructive criticism, and to contriving the formulæ of practical application. Men of organising genius would have devised the needed readjustments of social and economic interests, and schemed the executive modes of realisation. Journalists and political orators would have kindled the multitude with ardours of relevant desire. In short, the grand experiment would have worn a feasible air and stood a good chance of actual trial. But issued after the war-crisis was over, the Report fell upon deaf ears, and those hardy enough to advocate its recommendation to-day have so far failed to get a public hearing.

THE vital difference in the two situations is surely a difference of vision implied if not expressed. The contrast is in two opposed schemes of valuation as to what is worth while in the dedication of services, and the application of energies. We are surveying, in everything but name, two rival cults, or systems of worship, each with its relevant economy of attainment. The victory vision, with its war economy, imposed a momentary integrity of purpose on the myriad hands of our machine industry. But these Briarean arms broke loose, and returned to the dispersive service of the pecuniary culture. in after-war reversions.

*The net output per worker according to the British Census of Production amounted in 1907 to an average of £102 per annum. The net output represents the value added by industry, and is obtained by deducting from the selling value of the article at the Factory the cost of material.

YET behind the emulative intensity of a money-economy is the drive of its own relevant impulses to life-fulfilment. It is the nature of man to be stirred by vision of one sort or another; and the process goes on all the time, urging to this destination or that. The rise to passion of attainment in the war, and subsequent lapse to a philistine decorum sinking into frigid fear of impending fate, was but a spectacular instance of what commonly happens. Is it not a characteristic of our industrial age, ever to be oscillating between the thrills of a paradise won by the titanic output of machine production, and the terrors of a poverty-stricken hell? To the latter mood, Governments have time and again during the past century responded by Royal Commissions and Departmental Committees addressed to the problems of conserving materials, energies, lives. Nevertheless, their Reports and Recommendations continue to be frustrated, partly by their own fragmentary character, but still more by that lack of integral purpose which is characteristic of populations dismembered by chronic reversion to lower forms of hunting mentality.

§ 3.

A GAME of hypothetical economics better than either of those practised above upon the Reports of the Coal Conservation Committee, and the Afforestation Commission, may be played. It consists in supposing that the recommendations of the Coal Conservation Committee be exercised neither in war-time, nor in peace-time under utilitarian impulse. It assumes a persistence of the public spirit awakened by war, but now inspired by definite eutopian vision, and directed by relevant design, towards the appropriate economy. To begin with, there would be adopted those recommendations which are calculated to yield the *same* horse-power energies as at present, but by burning only about half the current quantity of coal. That would be a wiser course than plunging into the more ambitious project of doubling at a stroke our mechanical energies. For one thing, our present waste of the national capital stored in the carboniferous strata must be checked. For another, the equilibrium of town and country is too delicate an affair to be upset by a sudden expansion of industrial output, without incurring grave risks by the implied acceleration in the birth-rate, with consequent increase of demand for food and raw materials.

THESE are fundamental issues. Pass to those of supreme order; represented not by quantity of goods and number of hands, but by quality of life and "harmony of soul." To simplify the underlying problem, treat it in the light of a single instance, taken for type. Suppose our energy economy, when fully elaborated and applied in practice, to mean broadly a reduction in the hours of colliers, workshop and factory hands, possibly by something like a third to a quarter, without lowering the standard rate of wages and profits. What would "the People" do with their new access of leisure? They would of course use it as the "spirit of the times," or "the fashion of the hour" prompted. But the spirit of the times, and the fashion of the hour; how precisely do they operate in swaying the People's habits of mind and so determining their conventions of leisure?

FOR answer take, as symptomatic, a recent anecdote of fact. The story begins with a visit to Brisbane of Mr. Reade, a missionary of the Town-planning movement. The first thing a town-planner does, on reaching a new city, is to walk through it as though wandering in an ill-arranged open-air museum, and one therefore which exhibits at once the defects and the qualities of the inhabitants. A defect which Mr. Reade observed in Brisbane was lack of playing places for children; and the corresponding quality was the responsiveness of its citizens to "new ideas" reasonably expounded to them. Mr. Reade told them of the American idea that every city should provide for its children public playgrounds; not only of ample space, and equipped with the apparatus of games and gymnastics, but also something more. And the something more is a design which transforms the terrain itself into a miniature elysium of forest and garden, hill and dale, swimming pond and sandpit. With this idea Mr. Reade kindled the people of Brisbane. He evoked in their minds a vision of the might be. He showed them plans of the city as it was. He exhibited designs of what it would be, if some of its waste spaces were converted to American-like playgrounds; and moreover, on the footing that no home should be more remote from one of them than a child's walking distance. With Surveys of actualities, and Reports of possibilities, went Estimates for cost for reconstruction. This sequence of Vision, Design, Economy, customary amongst town-planners, had a unique sequel in Brisbane. It was the mode of realisation. The local miners offered to do the work at their own cost, by taking a "holiday" from their ordinary work. The offer was

accepted; and the miners assembled over 3,000 strong, and set to work upon the labour of transforming waste dumps into children's paradises.

Now observe the "go" of this affair; mark well its principle of action. Energies were liberated by the thaumaturgy of vision, and applied in terms of a definite plan prepared by specialised skill. Hence resulted the advance of a dilapidated city towards that kind of adaptation to child-life, which is presumably central to the Christian religion. Roused by the appeal of idealism, directed by the relevant plans, organised by their own leaders, the Brisbane miners found the joy of life in a leisure-occupation that just fell short of the religious. It fell short by lack of doctrine and creed to link the leisure enhancement with the daily round of duties, hopes, fears. The City of God and their own Brisbane were, ordinarily, things apart. They were brought together by the Vision, Design, Economy, of children's playgrounds. Thus for one golden moment of eutopian rapture was achieved that co-ordination of man's world and the "Kingdom of Heaven," which may be taken as the practical purpose of religion. So much for the religious aspect of the redemptive process; what next of its sociology?

It was affirmed as a fundamental tenet, by the founder of sociology, that for sustained fullness of life is needed a continuing concert by four types of personality. When those who can awaken and inspire, those who can think and plan, those who can organise and lead, all labour together in the common interest, then does the Voice of the People become the Voice of God. Here is a truth no doubt implicit in all formative movements. To have made it explicit, and set it at the foundation of sociology, is the contribution of Comte to modern science. It means in practice that every social situation, in order to be functional and creative, must, in Comte's phrasing, have its quartet of Emotionals, Intellectuals, Chiefs, and People. To be sure, two or more of these types may be combined in the same person. Mr. Reade manifestly combined in his mission to Brisbane the double rôle of Emotional and Intellectual. But the point of the story is that the 3,000 miners who performed a labour of Hercules were the same People as before. The difference was in the advent of a new Prometheus. That reincarnation of a "spiritual power" fitted to the occasion, evoked, as always, a display not only of operative labour,

but also of executive leadership, adapted to the work in hand. The spirit giveth life, and in many ways : not the least in that it calls out from the People themselves the particular kind of Executive " Chiefs " they need in order to fulfil the enounced purpose.

§ 4.

We are now in a position to answer the question as to what use the People are wont to make of their leisure. They use it, of course, in pathetic quest of the life-enhancements and civilisation-purposes pursued by their betters. And who are their betters ? For the most part, to-day, no doubt millionaires and magnates who set the tone jointly with our titled patriciate and their semi-sacred families. And with these kinds of " Chief " go the relevant types of Emotional and Intellectual, skilled in reconciling the " leisure class " ideal with religious values and public appearances. Now the supposition on which rests our hypothetical game of Eutopian economics (yet actually played in Brisbane) is that this dominant order of social situation now current be broken by the incursion of such types as the town-planning missionary. The change is already well under weigh. Thanks partly to the war-time activities of unemployed architects, there are to-day in existence not a few civic surveys showing (for example in Manchester, Liverpool, Leeds, Bradford, Greater London) just what open spaces can be used for purposes similar to that which inspired the Brisbane miners. And notable advances in this direction continue to be made. The latest is very relevant to current problems of the Coal Industry. For it is Professor Abercrombie's Survey and Report of the new Kent Coalfield. And with that should be read and studied others of similar or analogous purpose, such as Mr. Lanchester's Report on Kilmarnock, Mr. Davidge's Report on Rotherham (in view of changes impending on the opening of the new Doncaster Coalfield), Major Hardy Sims' Report on Consett, and various Surveys and Reports by Professor Adshead, Mr. Mawson, Mr. Ashbee, Messrs. Adams and Thompson, and above all the long series by Professor Geddes on Indian towns and cities.

The sheets of these Surveys and Reports will be to the statesman of the future, and their domestic peace-games, what their military maps are to the war-games of our present statesmen in their foreign diplomacy. In regions so studied the process of social recrystallisation could be

promptly set agoing, other conditions being given. And once started it would work like leaven. After children's playgrounds would come the turn of other similar modifications of environment, such as open-air amphitheatres for popular drama and pageantry, and simple but dignified stadia for sports, games, processions. Again, why should not every industrial town have its own Kew Gardens, or seasonal Paradise of Floral Pageantry, designed and schemed by Town-planning missionaries, in combination with Masters of Rural Development, of whom an increasing number are becoming available. The city of Ghent with its " Floralies " is already a first-rate example ; nor does it stand alone. Executed and maintained by the voluntary labour of a more leisured populace, these reconstructions of environment would, by mere operation, serve also to re-educate their communities. They are but samples of the tidying up, and replenishing, to which an awakened folk, touched by Eutopian vision, will, by the work of their own hands, submit the dishevelled environments, or disordered Homes, of our cities, towns, villages.

WITH such an overture composed in the rhythm of nature and human nature in unison will begin the long-delayed concert of Home—Guild—College—City. By process of leavening, to transform a repressive into an evocatory environment, and thus a dulled population into a quickened folk, inspired by regenerative vision, will be the very deliberate aim to which our opening generation of truly economic and political leaders will address their strategy of Civic Design, their tactics of Regional Economy. They are ready to begin this great life-game, not only in imagination and theory, but also in steadfast reality. But first we must substitute, for the counters of our pecuniary culture, the essential pieces of a vital citizenship. It is a game in which givers of Life-Vision and framers of Civic Design will devise and establish their own real Economies. The People's requirements will then cease to be subordinated to the budget of a hunting economy disguised in utilitarian mask.

THERE is warrant alike of Scripture and Science for believing that this is the sure way to enrichment of life. It is the way to secure that the strife of individuals and classes, for opportunity, privilege, power, shall be increasingly replaced by—what ? Nothing less than a concerted struggle of personalities and communities in generous rivalry towards the readjustment of Population and Environment ; and this

social synergy will be experimentally determined by well-ordered quests of life-abundant. The sacred "Way of Holiness" and the secular road of Synthesis, if they be not identical, must at least run parallel. Between them, no doubt, is to be laid down that Highway which the greatest of the older prophets foresaw and described. We have his comforting assurance about this prospective highway of a regenerate humanity that "the unclean shall not pass over it," and that "the wayfaring man, though foolish, shall not err therein." This prophetic vision of Isaiah encourages us to scheme for the planning and construction of a "fool-proof" way through the mists and morasses of our modern world. Is a figure less redolent of American slang mingled with Biblical idiom desired? In terms sociological let us affirm that only by an orchestration of the arts, in time and tune with an organisation of the sciences, can the rhythms of life be keyed to dominant harmonies, melodious within the music of civilisation.

II. THE CONSERVATION OF SPIRITUAL RESOURCES.

§ 1.

THE recent and present tendency of Western nations, to recurrent rise and fall between heights of rosy vision and depths of black despair, may be regarded as the social disease which corresponds to alternate consciousness, or split personality, in individuals. The consequent waste of emotion, thought, and imagination, indicates a failure of conservation in spiritual resources. It is a failure which throws into shadow even the incredible waste of materials and energies under our pecuniary economy. How then to stop this leak in the vessel of the human spirit? That surely is the supreme problem of truly social economics. Yet our "political economists" habitually shirk this issue. It may be that we and they pay the inevitable penalty in futilities and failures of endeavours concentrated on merely material or monetary economies. Projects to stop waste in coal-burning, for motive power and increased efficiency, and in catch of sunshine by afforestation, come to nothing. Why? Because we do not first, or at least simultaneously, contrive a better economy in conservation and

use of emotion, thought and imagination. We pay for that spiritual wastage in civic disablement. Workshop, school, university, cloister, temple, and forum, are adrift, each in paralysing isolation. The agencies, which should combine to evoke, to compose and to realise the vision integral, fritter their energies, in unrelated specialisms or in lifeless abstractions. Thus do our cultural institutions become facile instruments of reversionary—even perversionary—trends. The end in which this process eventuates was observed by Jeremiah in ancient Jerusalem. He saw " the children and the sucklings swoon in the city." In his interpretation of that event he did not hesitate. He took it to mean that the city's " prophets found no vision from the Lord." In our own day we have seen children and sucklings swooning in the cities of Central and Eastern Europe; and even nearer home; but we seem to be less informed about the underlying causes of the catastrophe.

FEW amongst adults escape the slippery slope of disintegrating personality. In childhood, nature leads us along the winding path of day-dreams upwards to the mount of vision. Then comes the spiritual adventure of youth in quest of fulfilment. If the attainment of harmony in desire, impulse, and will, were not left to ourselves, there would be no meaning in freedom. Evidence of a dominant harmony actually achieved may be seen in the saintly bearing, or sustained chivalry, or abiding grace, of some, the serene face and tranquil yet intense life of others. But all these radiant souls together constitute but a small margin of any modern community, at least amongst urban populations, as you can verify by observation any day in the streets of our great cities. The rest of us know only too well what it means to lead double lives. We do the best we can to hide the contradictions of mental dissociation. But the concealment is more effective in deceiving ourselves than our friends and acquaintances. Our habitual disguises are continually exposed by the critics of our circle. They mercilessly analyse those justifications of thought and conduct, which we put forward as grounded in principle. Their criticisms make it plain to others what we are really doing. Our vaunted principles are little more than a " rationalising " of prejudices, personal interests, and class privileges, of group jealousies, national animus, or what not of crude impulse and unworthy desire. In the mirror of such criticism it is easy to recognise the common artifices to which people of doubled lives have recourse, to secure for themselves an illusory semblance of purposive integrity.

We gain a momentary ease of mind by dissociating personal, family and group ends from communal ones ; but only to have the latter returning upon us in ghostly disguise. Against their assault we erect the earth-works of lop-sided social philosophies. From these strongholds of beguilement we initiate, organise, and carry on, crusades of illusory redemption. Hence, in totality an immense expenditure upon " movements " for imposing on the world fictitious integrations effected by process of what certain psycho-analysts call, somewhat vaguely, " reaction," and others, more clearly, a " defence neurosis." It is unlikely that any prohibitionist or pacifist, for instance, is conscious of an ambiguous motive in the advocacy of his cause. But that by no means makes impossible, or even unlikely, a sterner interpretation of such thought and action, as too often a mere pretence of mental integrity, disguising an oscillation of impulse between the exhilarations and the horrors, of drink in the one case, and war in the other.

Assuredly we must not think of these fictitious integrations as altogether wasteful of mental and spiritual resources. Even if they have no other value, they aid in arresting the slide down that slippery slope where at the bottom lurk crime and vice. The " reaction " of a putative idealism is obviously preferable to the " repression " of impulses which in the end break out into open crime or secret vice. The bill to the community for dealing with the latter evils is but part of the total cost. The balance of loss stands a debit against the social assets of creative genius and constructive idealism. Who can compute the waste of inventive skill, imaginative feat, generous emotion, not to speak of more commonplace endeavour, frittered in the futilities of propaganda for bastard " causes " ?

To be sure an indirect social gain accrues in these movements of supposed public benefaction, since they serve to some extent the purpose of a safety valve in an overheated boiler. Baulked desires and unsatisfied impulses may thus find an outlet by " sublimation," whereby defects are changed into qualities of life. Real integrations of high social value may thus be effected. Goethe's mode of relief from a hopeless love passion, by the writing of poetry, is a manner of " sublimation " endless in variety of manifestation and great in possibility of achievement. But in the filling of life's cup, a sonnet cannot wholly replace a son ; and the most devoted mother of a convent must have moments of longing for a daughter in the flesh. Certainly a

well beaten path runs to the celestial city over the stepping-stones of sublimation; and there can be no progress in the pilgrimage of the spirit without attaining real proficiency in this kind of exercise. Still the fact remains, that habitual diversion of impulse and desire implies a break of natural rhythm, and few attain to the harmony of soul, and singleness of purpose, which reward voluntary and joyous sublimation. Mere forcing of renunciation produces discord resembling that wrought by repression.

By combined observation and analysis, issuing from recent and current schools both literary and scientific, a re-survey of well-nigh the whole field of evils is now going on in terms of repressed impulse and baulked desire. Never since theologians ceased their active exploration of the realms of purgatory and hell, has there been such illumination upon the sources of follies, vices, crimes, and even of poverties and diseases. We are learning, and in an orderly, even systematic, way to see how mischief and ugliness grow rife on all sides, because people are denied natural satisfaction of physical impulses and æsthetic desires. We see lust, drink, and gambling, as the harvest of starvation in vital impulses and intellectual desires. We see crimes endemic, wars breaking out, and revolutions starting up, for lack of social satisfactions and opportunities for political fulfilment. These are the Furies let loose, in a community of half-formed and disintegrate personalities.

§ 2.

It may be urged against the above indictment of current "economy" in mental and spiritual conservation, that it discloses a potential rather than an actual waste. That may be so. But the serious charge is yet to be made. Reflect on our ways of evading retribution for duplicities (however unrealized in life), and you perceive a wastefulness that exists and grows, as it were, by compound interest. In unwitting and unavailing strife against the furies of unsatisfied impulse in things physical and æsthetic we cultivate games and pursue sports with the ardour of an impassioned professionalism: we travel luxuriously abroad when we should be working simply or resting quietly at home. We set up museums and galleries, anyhow: we collect bric-a-brac, purchased at "fancy" prices: or we manufacture "ornament," and, at incredible cost, insist on a standard of "machine finish" in the

whole output of factory and workshop. Similarly in the sphere of vital and intellectual needs. We seek a factitious satisfaction in abundance of rich food and fermented drinks, with ceremonious elaboration of their service ; and we feed our " print-habit " of mind with voluminous production of tit-bits—literary, scientific, philosophical and religious : or again in subsidy and endowment of schools, colleges and universities for " training the mind to production and appreciation "—of (tit-bits and bric-a-brac as) " culture." And finally we compensate a baulked social disposition by endlessly multiplying the machinery of clubs, institutes, associations, to foster fitful intercourse, to promote trivial movements, or to play the party game.

To suppose, as we of the doubled lives do, that the integrity of purpose which life demands for its fulfilment can issue from all such specialised and sporadic endeavours, is surely but a form of the mechanical illusion made prevalent by the machine-industry and its pecuniary culture. Underlying the assumptions of this pecuniary culture is the fallacy that frustrated the after-war attempts at re-construction by politicians and their advisors selected from economists, business-men and engineers. They went on the supposition that life consists of parts which can be prepared separately, then assembled and put together after the fashion of the engineer's fitting-shop. That infidelity is tantamount to a denial of life's unity. In the days when this denial was called atheism, the guardians of holiness (*i.e.*, of wholeness made sacred) were wont boldly to predict black disaster as the ineluctable price of its violation. Their contemporary successors would seem to entertain the ironic view that our poor-houses, hospitals, asylums, reformatories, jails, are things given under Providence for practice of charity, exercise of religion, promotion of health, institution of justice. The more numerous the institutes of poverty, disease, vice, crime, the greater our assurance of divine sanction for the social order. Is not that, on the face of it, the ethic of the paradox ? So long as moral judgment runs on these lines, little support is to be had for a realist economy, a vitalist policy, and an integral vision to unite them in impassioned endeavour.

GREAT scientific changes are however in progress, which in their turn must affect our practice. It is not difficult to foresee the next stage, in sequel to the current readings of split-personality in terms of

" repressions," " reactions," " defence-neuroses," and even (imperfect) sublimations. This psychological analysis cannot fail to call forth a corresponding sociological analysis. That means a study, concrete and systematic, of the particular environments and traditions to which those who live double lives adapt themselves by means of the special kind of duplicity they become committed to, and practise. Analysis of a man's mental contents, even if reinforced by knowledge of his ancestral heredity, is no more than work half done. It lacks the corresponding analysis of his social inheritance, and of his current environment. To separate mind and personality from tradition, environment and community, is as profitless as would be billiard-balls, cue and chalk without the skilled player and the billiard-table. Happily a form of social analysis, well adapted to pair with psycho-analysis, has already well begun. Its technique, specialised for the work in hand, does, in point of historic fact, even antedate the technique of psycho-analysis. To be sure, the method of Regional Surveys (*i.e.*, open-air observation of place, work, folk, in unity of interplay) has so far been less fertile of results. The thing now needed, however, is not emulative comparison but collaboration, for the extending of observation and theoretical study, and for practical endeavour. And this range of co-operative enterprise, both explorative and practical, is wide. Returns to reality and renewals of a vital integrity are becoming manifest, and on many sides. Let the new psychologist, and his unrecognised twin, the new sociologist, not only come together, but go out to seek complementary allies ; they will find them on the margin of every group, party, association, institution ; and sometimes at its centre. Their common ground of union is ample, alike in criticism and in construction. Their critical line of attack would converge on two major points ; first an indictment of the machine-industry, under the utilitarian price-system, for its monstrous extravagance, as in running costs ; next, an impeachment of the pecuniary culture, for subconsciously promoting fracture of personality ; because its survival depends on the stimulating of tendencies to reversion.

THE current system—mechanical, utilitarian, pecuniary—has to be presented with cold precision, thorough-going objectivity, unbiassed detachment. Viewed in this spirit of science, the outline of our picture might be traced somewhat after this fashion. There is continuous waste of things—and worse still, of skills—in providing for the displays, the caprices, trivialities and follies, the dissipations,

luxuries and diversions, of people disoriented or debased by leading doubled lives. There is waste, intermittent but prodigious, of materials, energies and lives, wrought by the ups and downs and crises of Demand and Supply under the utilitarian Price-system. There is the waste of life, health and mentality that fills hospitals and asylums full to overflowing with men and women broken under the industrial car of juggernaut. There is the waste of child-life and motherhood in multitudes of families condemned to habitations that enfeeble the body, deteriorate the mind, extinguish the soul. There is the waste which diverts man's spirit of adventure into crime, and then entraps and literally cages it in prison cells. There is the waste that continuously sprays human fountains of idealism over mock fights in the political forum; that lights Promethean fires under the cauldrons of war and the retorts of finance; that pours the golden streams of imagination into the desert sands of phantasy. The irony of the pretentious and question-begging word "Utilitarian" to denote such a system has been expressed in the saying that its human principle is an organised sabotage mitigated by good intentions. It has been well pointed out that "Futilitarian" is the truer word.

THE vital and civic economy needed for Eutopia-making must reverse the engines of our mechanistic and utilitarian economy. Surely the fairies of its phantasies are by this time glutted by their long-continued exuberance of imaginative service. Could they not spare a little creative imagination for a fashioning of visions, which, if less brightening to-day, might be more potent to-morrow, in impassioning the life-impulse towards fulfilment? Is there not much to be said for that kind of æsthetic exercise, were it even as a game of wits? Since his Scots tutor invented it for the boy who was to be Frederick the Great, soldiers have had their War-Game. That this stimulating exercise can now be capped by a constructive Peace-Game, of Eutopian strategy and tactics, is not an extravagant assumption: for wherever this gets once started the attraction of such vital play draws together the men of knowledge and imagination, of will and devotion, from many different camps, as by and by it will from all.

§ 3.

THE knowledges and studies we call Geography, History and Statistics, have had their origin and development in no small measure for the purposes of war. That ancient association of learning with the military

art has been strengthened and elaborated in modern times by the indirect linkage of war with trade and industry in the centralised State. The new sciences which gave rise to the machine-industry have thus been drawn into the old partnership of war with the traditional knowledges of things and forces, of places and institutions. Such synthesis, as these studies have so far attained, is partly to be reckoned a bye-product of the war-vision. Evidence for that generalisation has been gathered freely; on the surface of the pre-war Prussian State, and hardly less freely, below the surface in other modern States. To reverse this tendency, by deliberately setting our minds to compose a concrete synergy, adapted to the needs of each person and home, each village and town, each city and region, is the problem of the Eutopian peace-game. Its apparatus is inexpensive. Nothing more, to start with, than the purchase of large-scale ordnance maps of one's own region; on which to mark down, in orderly fashion, the knowledge of well selected facts, in the ever-changing drama of folk, work, place, to be gathered by regional surveys. As the game proceeds, the players are soon moved towards synthetic vision by the unities of man and nature, which such open-air studies bring before their eyes. But how to advance from passivity of studies synthetic, which prepare and set the board, to the more fascinating game itself, its moves, of militant deeds synergic? We are impelled to that achievement as our vision grows integral, and therefore practically verifiable. Without these two aids, of emotional drive and intellectual guidance, Surveys cannot issue in Reports, Plans, Estimates, that are of viable Design: and for want of them the unified and applied concreteness of the Eutopian game must needs degenerate, as into the premature abstractions of mere Utopia-making, such as many a conversation raises, but lets fall. The passage, from our would-be constructive peace-game, to its throbbing vision of life, actual and possible, is the crux of the matter. And nothing but confusion is to be gained by shirking the difficulties of bridging this still too frequent chasm between thought and performance.

Such tentative samples of Eutopian vision as are at present available may not yet all be well devised for impassioning the life-impulse to seek and pursue integrity of purpose. It hardly matters. The general conditions of such a quest are sufficiently known; for the lesson of tradition in this issue is fairly clear. Not simply by appeal, either shrewdly economic or eloquently emotional, to masses of people, not

alone by any sort of observant survey or interpretative research, is the vision verifiable and integral to be attained : but through and with the living-out of a well-ordered set of experiments, of sowings and reapings from small to great, shall we succeed in the bringing together of knowledge, imagination, devotion, into their rapturous and effective union. This very endeavour is the seeking for renewal and modernisation of a "cloister," adapted to the work in hand. The ideal task is to win through from the decadent cities of the Plain to the New Jerusalem —say rather to transmute them. A working laboratory of the spirit alone can fashion the trumpets that will shake down the walls of our ubiquitous Jerichos. The present order of things maintains itself because substantial numbers of assertive males do succeed, each generation, in effecting an adjustment with environment, which affords —if not to themselves yet, as they believe, to their families—some approximate fulfilment of life, as they see it. These masterful men can seldom be touched by any appeal for change on grounds of reason and sentiment. But what of the multitudes, depressed in spirit, unawakened in mind, enfeebled in body ? No mere modification of environment can suffice to give them adequate new life ; nor can enhancement of life reach them through adjustments whose secret lies half-veiled, since in the cloister only now rearising from its ruins.

History compels the belief that progress towards Eutopia depends in no small measure upon the possibility of attaching its theory and practice to some modern equivalent of the old cloister ; and some appeal to its evocatory methods of vision, there developed by age-long experiments in the arousal and discipline of the spirit. For the old cloister once possessed, and applied in thoroughgoing fashion, the secret of a creative psychology. It knew how to evoke and sustain the passion of life which is spirit. And this spirit creative had for its purpose that transformation and enhancement of our inner life which merits the great epithet Conversion. It transmuted every-day feeling into emotion of the ideal ; it transmuted our outward sense to inward imagery, which again took shape in the richly varied forms of art, even in the design and making of a better order for Place, Work and Folk, in buoyant rhythm. And along with this evocation of the high emotional and imaginative life, the spirit creative, when in good working order, extracts from every-day experience those formative ideas which go to the making, in one age, of theology, in another, of philosophy, and again of science. The decay of the old cloister is

associated with prolonged failure (despite magistral efforts such as those of the Jesuits) to work out and apply its traditional psychology of the creative life to the changing conditions of our modern world. The problem therefore remains (and, no doubt, it is the central issue of this, as of every age) of finding the means to awaken in dulled populations their slumbering spirit creative. Towards this end, sociology contributes its eutopian concept. Yet our Eutopias would lapse at once to mere "Utopias" in search for an ideal harmony of personality and community by demanding abstract perfection of the inner life, or magical transformation of outer circumstance.

THE Eutopian process has for immediate aim a common-sense gathering, from all available sources, of materials for the best ordering and fullest enrichment of life, public and private, to be experimentally initiated in the here and now of this place. It selects and borrows from all the sciences, and from theologic examples and achievements; also from all the arts and literatures, old or new; and in briefest modern terms from history and social economy all they can give us. Here are samples of its gleanings—multiform, yet systematic—of knowledge and belief. It believes that by a better economy of extant resources, we might secure, for the coming generation, a notable reduction of our tendencies to dualism of life. It believes that the day-dreaming impulse and habit of youth is the organic basis, given in nature, for a far more vital purpose than mere consolation against disappointed aspirations and unrealised ideals. It sees in this day-dreaming impulse an evolutionary intention, towards widening mastery of environment, towards extending freedom and joyousness of inner life, and thereby towards an increasing opulence of personality. And the instrument of fulfilment, it believes to be, thrill of vision that moves to creative deed, by throwing light on the path of purpose. The quality and test of true vision are in its power to compose, into a dominant and enduring harmony, a man's past experience, his present facts, his future needs and aspirations.

ALL this follows, if it be granted that mankind's unique gift is a latency of conceptual purpose; for this when awakened to vision, passionately kindles the life-impulse to work out its ideals of attainment. That is the Eutopian postulate, as to the meaning and significance of the human process. It is given anew in the life-doctrine of science, and as of old in that of sanctity. Hence it is that here, the new biology

as evolutionary, and the old theology as regenerative, increasingly concur. Many sacred texts could be cited in illustration. One of them is this : " the spirit of man is the candle of the Lord." There is, therefore, solid ground for the renewal of an art of seership, which will bring about an orchestration of all the arts, and the coming of a science which will effect the synthesis of all the sciences. And this royal pair, in well matched interplay between inner life and outer circumstance, we even begin to find, in the measure that we steadfastly seek them. There is an unfailing test of sincerity in this quest. It is the adjustment of life-economy, our days and years, in duties, public and private, to the development of our spiritual resources, by applying them to the fashioning and realisation of our vision integral. And as by self-education our minds become oriented to this perspective of progress, a true economy of material resources would follow, almost automatically. Then, and not till then, might safely be unleashed the colossal powers of an energy-production, which our physicists are even now so keenly searching to release.

§ 4.

For testimony bearing on the creative rôle of the day-dream rising into vision, appeal can be made to the history of religious institutions, and to the biographies of genius, yet also to the memories of youth, and even of childhood, in each of us. Is it not a fact observable in all these cases, that inspiration, guidance, sustenance, in the rapturous deeds of the creative life, grew with the fashioning of day-dreams into vision ? If and when, as too commonly, they decline is this not coincident with the fading of vision—and the consequent reversion of day-dreams to mere play of fantasy ; if not too often to perversion in imaginative or real gratification of animal or base desires ?

In the making or marring of vision, there is at least one master factor which is open to a measure of control ; and its ordering has therefore been central to every past cloistral endeavour. It is the daily flow of mind-stuff into the reservoirs of our inner life. This inflowing mind-stream issues from various sources. They include sense-impressions of the external world ; personal contacts of daily intercourse ; memories ; work done, attempted or evaded ; deeds conceived, whether rejected, initiated, or accomplished ; impulses and desires excited, whether thwarted and repressed, reacted against,

sublimated or carried to fulfilment. Such is the medley of food that feeds the fairies and furies, the angels and devils, the demons and divinities, within us. For all these phases of spirit lie latent within our inner being, and are constantly re-awakening into struggle for mastery of the life-purpose, at least until habit fixes the lower series, or self-discipline strengthens the higher. Tainted at its source must be the mingled food of mind and spirit, in environments like those of modern towns and villages, where defects and debasements are more marked than qualities and nobilities ; where the fabric of life is being fashioned more from the burden of evil than from the heritage of good. But that means our urban environment feeds the furies, demons, devils ; that it starves the fairies, angels, divinities. We should be truly inhuman if we did not cultivate doubled lives, in compensation, however futile, to our better selves, for making the urban environment into a barmecide feast for angels, fairies, divinities !

YET in disgust and reaction, who might not say—go to, let us remake our towns and cities into places of order, brightness and beauty ! But the needed formula of an environmental re-planning, adapted to evocation and sustenance of the human spirit at its finest, is not to be easily composed. We have long lost those old secrets of civic design which were inspired by cloistral impulse. Their rediscovery and readaptation, or the finding of new ones to take their place, is a problem whose solution, though here and there on the horizon, has seldom, if at all, yet come clearly in sight. Meantime the more energy we extract from our coal, the more are we like mariners driving before a rising gale, and with helm lashed and compass out of order. There is, after all, something of sound instinct which delays adoption of technical economies, till we have learnt how to substitute for our pecuniary and mechanical culture, one that is more vital and civic. Leave our people with only the mental pictures of life-fulfilment dominant throughout modern industrial times ; double our horse-power energies by the technologist's economies ; what achievement would be visible at the end of one or two generations ? Instead of one Manchester, one Birmingham, one Leeds, one Glasgow, one East London, one Black Country ; we should possess and enjoy two, and even larger specimens of each. There assuredly is the practically avowed Utopia of Utilitarianism. (America is still full of it.) That is the beclouded vision of " prosperity and progress " which the pecuniary economy not unwittingly subserves. Its scribes and prophets declare that

Regional Eutopias are "uneconomic." Little is to be gained by disputing with them. Rather let us turn from these sceptics, whether of capitalist or socialist persuasion, and seek other company in our quest of a feasible policy for the conserving, developing and applying, of spiritual and mental resources. For a time let us take counsel with the masters of dream, who have furnished their age with a compelling vision of life-fulfilment. These, throughout history, have been the real conservators of spiritual resources, and at times were the realizers of them too, for the arousal of their fellows towards the establishment of some better social order. Let us take then, as it were, a day of rest among these religious men and women, and for a space lay aside those problems of the working week we have been trying to face and see how to deal with. In their holy company we may hope for divine aid towards composing that inner conflict which, in critical mood, these same seers, poets and theologians have so fully exposed. Listen, for instance, to Victor Hugo's account. He gave a Freudian picture of the mind, long before the stern psychologist of Vienna was heard of, perhaps even before he was born :

> As in dark pools, stagnating 'neath the trees,
> Oft in the self-same soul, two things one sees,
> The sky which tints the water's glassy seeming,
> With all its shadows, all its glories gleaming,
> And the dull slimy ooze, awesome and sleeping,
> Where swarming reptiles black are dimly creeping.

III. DREAMS OF PERFECTION AND THE BURDEN OF EVIL.

§ 1.

As the Chinese is eldest of surviving civilisations, so the Catholic Church may be reckoned eldest of surviving societies in our western world. A reading of Chinese persistence has been made by recent anthropologists in terms of the national devotion to peasant ideals racy of the soil.* Similar beginnings of a social analysis that runs

*See Sociological Review, July, 1924, Economic Roots of Evils and Ideals.

from foundation to summit have been tentatively applied towards interpreting the persistent survival of the Catholic Church, and its abiding powers of readjustment to changing circumstance. This line of reasoning has its distinctive feature in attaching more than customary significance to such facts as that the Holy Father is enthroned in the seat of a Fisherman Saint; that papal pronouncements are issued under the fisherman's ring; that the most sacred of papal insignia, this ancient fisherman's ring, is the last acccessory to be removed from the body of a dead Pope, and the first to be appended to his living successor.

Now of fisher-folk there is, to be sure, a wide variety, primitive and developed. The type as yet most carefully studied is the early fisherman of the Norse fiords. The salmon enticed him from river to ocean; the cod and the herring continued his maritime education, and the seal and the whale completed it; so that the viking navigator became for a time master of all Europe accessible by port or bay, by creek or river. From Russia to Brittany, from Ireland to Sicily, the ruling aristocracy of every western country has been deeply rooted in Viking ancestry. That betokens a unique mastery of men and things latent in the fisherman's calling. The sailor-fisherman matches keel, rudder and sail, in his game of skill against wind and tide and current. He risks life and livelihood all the time. An immense and varied knowledge is implied. This knowledge has to be at instant disposal; hence readiness of command by skipper, promptness of obedience by crew, are the conditions first of survival, and next of prosperity. The firmness of purpose that makes strength of character therefore grows habitual with the sailor-fisherman. There is seldom a watch in the voyage when he does not look into the bright eyes of danger. And death is a scarcely veiled passenger aboard. Yet the exhilaration of mastery intensely enhances life, in the presence of overpowering forces tamed to a certain docility by human effort. Nevertheless, arrogance of mind and lust of body are subdued into awe of spirit by mystic gleam of water and majestic vault of sky; by the sea's vastness of prospect, profundity of arousal. More than other men does the fisherman commune habitually with the immensities. On these heights of life, how insignificant must appear pettiness of custom and prejudice of race seen in travel, and recalled in memory, by the aged sailor-fisherman reflecting upon the varied scenes of alien lands and strange peoples diverse, yet united by the broad-bosomed sea. To

such a dreamer comes the vision of a common humanity in which there are no clean and unclean, but all are one in worship of the ideal. Is it not the supreme claim of the age-long papal dynasty, that it re-incorporates afresh in each generation the spirit of that dreaming fisherman? Does not the Catholic Church exist to realise his vision? Is not its spiritual achievement to be measured by capacity to call forth, in the mind of youth and maintain throughout later life, St. Peter's vision of the net let down from heaven? What image could be more Catholic, what symbol more human!

ASSUREDLY firmness of will is the keynote in the fisherman's dominant harmony. Yet how frequently throughout history is that strong will applied to unsocial ends! And the sailor's recurrent temptation has been piracy; pitiless even as octopus or shark. The pull of reversion to some lower form of the hunting life acts upon him continuously. Menacing the Galilean Peter stands the Viking berserker. The dreams and deeds of the latter, no less than those of the former, are mingled in the fisher tradition. How to reconcile the resulting conflict of impulse becomes of necessity the central problem of inner life; and a certain integrity of purpose, real or seeming, becomes the vital condition of survival and attainment. An instable integration may be effected in the fishing regime, as in the hunting, by artifices, mental and social, which for a time subordinate humane impulses to predatory pursuits. But the price of that evanescent unity may well be a riot of costly display and fierce strife in this world; and its expensive duplication in the valhalla of the next. The sailor-fisherman's craft-mastery, and his Ulyssean wiles, have no doubt contributed a substantial quota to the hunter's model of a society impelled to "conspicuous waste," if less to "vicarious performance of leisure."

§ 2.

ON the other hand, a very different path to integrity of purpose is taken by the Galilean type of fisherman. He commits himself to service after the fashion of the gentle shepherd's pastoral ideal. And the papal continuators of these two traditions have sought to unite and suffuse them with other enrichments. They have incorporated therein the peasant sacraments of bread and wine, and the peasant aspiration spaciously to build, and gloriously to adorn, temples of the ideal. They have welcomed into communion of fellowship the

hunter " converted " from destruction to adoration of life ; and so by the ordered sanctities of chivalry have they transmuted young barbarians into St. Huberts. They have given an ennobling purpose to the miner's mystic uprush in his quest and mastery of metals, by directing their fashioning to vessels of consecration. Now conceive this wide range of occupational ideals integrated to unity in social purpose. Imagine its rhythmic play in the sheer humanity of radiant youth ; picture the developing personality of that ideal youth, active in the carpenter's workshop, which assuredly is the evolved and urban setting of the elemental woodman, and with no small increase of ideas and development of ideals.

To the making of this composite picture, the whole round of nature-occupations has thus contributed characteristic qualities ; and so we see each one of all the elemental series from woodman to fisher patterning his finest life-values into a comprehensive whole of civilisation. In the sweep of this all-embracing scheme there has been drive of impulse, yet also the pull of a truly Catholic ideal. To create social harmony there is needed a well-planned integration of personality and community in deepening accord. Here then, assuredly, is vision of life-fulfilment, verifiable and integral, civic and personal ; and only on this basis can be built an education for the making of men and women equal to the renovating of a deteriorate civilization.

THERE, as the sociologist sees it, is nature's complex yet unitary rock of ages on which is built the Catholic Church. In the visions and revisions of its dreaming Saints, he reads the record of its achievements. Yet from the same source he tries to gather clues towards an understanding of its arrests and reverses. St. Augustine's vision of the heavenly city gave form to the dreams of picked Youth and Age throughout Christendom for a thousand years or more. Out of such visions came the renewed civilisation which flowered in abbeys and cathedrals. But in the inner life of the cities at large all was not well. Far from it, to judge from the emotions of St. Dominic and St. Francis—those dreamers, who in succession to St. Augustine, setting themselves to refashion the Catholic vision, surveyed the cities of their day. What their Master said of his city in his day, they felt of their own, and of every town and city visited on their journeys of missionary enterprise : " Oh, Jerusalem, Jerusalem, if thou hadst

known, at least in this thy day, the things that belong unto thy peace, but now they are hid from thine eyes!"

IT is told of St. Dominic that he wept as he halted to look down from hillside road upon each city approached during his preaching mission through Southern France. A similar mingling of grief and pity marked the mien of St. Francis to the cities of Italy. A famous picture shows the Saint kneeling in prayer on a hill outside the town of Arezzo. Below are clustered the towers and spires that made it a place of beauty with promise of purity and joy. But overhead the sky is darkened by coveys of demons taking flight from the houses of respectable citizens and the mansions of nobles. These vampires and devils are fleeing in terror from the holy tears and wistful prayers of the kneeling Saint.

THE symbolism of that picture is plain, for we know St. Francis' theory of evil and his practice of redemption. He saw all around him, in Church and State, amongst high and low, free and bond, men professing a religion of renunciation, but acting an acquisitive life. They performed ceremonial rites, even to sacrificial purgation, but their practice was to get rather than to give. In short, the vision of St. Augustine instead of being made to prevail by the church, was apparently not in working order. Where then the defect? What re-vision was needed? Men must be made to see and feel the joy of giving rather than getting; they must be shown, from faithful lives of their contemporaries, the buoyancy of heart and serenity of mind that radiate from lives simplified to utmost poverty, yet enriched by continuous giving. Such, in historic fact became Augustine's vision in Francis' re-vision, more joyous because more generous.

§ 3.

WITH the waning of Mediæval Faith, dreams of sacred perfections yielded place, in most men's minds, to dreams of secular ideals. In succession through recent centuries and current times we have seen the rise, to a passing dominance, of Renaissance Ideals, Encyclopædic Ideals, Liberal Ideals and Imperialist Ideals. And as the People came more and more to share in patrician dreams of a perfected state, in the here and now, there arose the Radical Ideal, to be followed by the Socialist Ideal, as that seemingly by the Communist Ideal.

Now these modern dreams of the secular ideal, all of them, popular and patrician alike, have this in common. In historic status, they stand midway between the visioned perfection of Catholicism and the scientific concept of Eutopia.

THE eutopian concept, though it originated in the forgotten pun of Sir Thomas More, yet, as a workable instrument of social renewal, is only to-day emerging in the field of science. This eutopian ideal expresses the endeavour of a synthetic sociology to compose from its own material, and set out in its own terms, a vision of life-fulfilment verifiable by reference not only to the mental and moral sciences, but also to those of the physical and biological order. And thus presented it should appeal to the intellect, and speak to the emotions, of all—of labourer, capitalist and statesman, of woman, artist and poet. Its basis of knowledge is specialised—and indeed must become so more fully than ever—yet also is con-specialised, i.e., synthetically ordered; and therefore verifiable, even to its details, by local reference, and in personal applications. In other words, every idealist project remains "Utopian," except in so far as we can systematically survey, plan and design for it, as Eutopian; and then initiate and carry it to fulfilment. For our Eutopia will thus have full and specific reference to the particulars and the unities of Folk, Work, Place—of Life, Labour and Nature—at our given period of time, and in its due season. And in this ineluctable sequence, Survey, Plan, Design, then Inception, with its experimental cycle of Ascending Effort, the aim is and can be, nothing else than a vision of Eutopian Attainment, and the driving force of a joyous devotion and eager resolve thus called forth.

YET, as prophets and priests have throughout the ages declared in warning, there is a prior problem. When we would do good, evil is present with us. The power of evils must be squarely faced, before relief from their burdens can be assured. Against its virus of poison an antidote must be sought and found. A cleansing and purification of the spirit is an indispensable pre-requisite to achievement of the good. Has science, as yet, made any systematic observation and deep analysis of facts and tendencies in this field of omnipresent evil? Assuredly, there are beginnings; witness the writings of wise physicians like Dr. Hurry, Dr. Cabot, and Dr. Brock, of some amongst sociologists too, and, to be sure, the psycho-analysts also.

§ 4.

WHAT well-generalised counsel can we hope to extract from these scientific sources? This for certain, that the treatment of evils must not be piecemeal. To handle the problem of evil in piecemeal fashion is the standing temptation of analytic science; yet one not without its gains of useful knowledge and fertile suggestions of remedy, cure, or even prevention. But a suspicion invades the mind that piecemeal treatments of social ills leaves the root-stock of evil untouched. Now this idea of root-stock underlies the theological view; and it has thus given to the religious handling of "sin" a strength and weight of tradition unrivalled, almost unchallenged, by our other lines of approach. This conception of evil as "sin," means emphasis on its pollution of the inner life. From this subjective standpoint, the theologians have built up a system of knowledge, unique in western learning, about the modes and working, the cure and prevention, of evil. Their corresponding therapeutic, as in all like cases, sometimes lags behind knowledge, yet sometimes runs ahead of it. But the differences, for the most part, have reference to detail of redemptive and purificatory rites; the positive and creative principle of healing remains constant. It consists in charging the mind with a vision of fulfilment at once thrilling and cathartic.

As to the objective conditions under which the process of redemption, and of consequent attainment, can be submitted to the test of experience, theological doctrine has varied. It has leaned now to the cloister, now to the hearth, as the environment of a first approximation towards relative perfection. Upon the further problems of environmental detail in more complex adaptations (as of city life), to inner perfection, theological thought has been loth to embark. It is, of course, at this very point—of the objective conditions relevant to life-fulfilment—that science should have something to say. But confession has to be made that the man of science has so far developed no adequate language and tradition of his own; and has practically declined to acquaint himself with the terms and concepts of theology that bear upon inner purification and subsequent fulfilment. Our Western civilisation therefore presents the strange spectacle that its masters of objectivity, and even its pedagogic tuners of the mind, seldom hold converse with its masters of subjectivity as kindlers of the heart. It has too long been as though alien engineers were tunnelling from opposite sides of

a mountain frontier, and were indifferent, if not hostile, to each other's labours. And even we few, who are now working with some such general idea of complemental effort are still too apt to go on in failure to inform each other about our respective levels and directions; and so at best we continue in blind conviction that our two adits may, by happy coincidence, meet somewhere in the middle distance. Have not things stood thus too long between the body of theologians on one side, and men of science on the other? Hence have not both groups too much been losing their way, and gone on tunnelling, and tunnelling round and round in the bowels of the mountain, despite many honest endeavours to get through?

To ensure that these objective and subjective approaches may meet plumb in the centre of the mountain, certain preparatory courses in the diagnosis and treatment of evils are manifestly needed. One of these vital needs is a natural history of inner vision, conceived and written in sympathetic understanding of redemptive theories, as elaborated by theologians, and applied by ministers of religion. Another is the subjective complement of this objective endeavour, a transcendental presentation of man and nature, which yet fails not to incorporate the substance of science. Both these movements are developing.* Thus there re-emerges, with fresh clearness, an old idea. It is surely this. Defective and illusory vision of life-fulfilment is the mainspring of evil in modern civilisation. But that conclusion merely raises a deeper issue. How happens it that miscarriage so frequently attends the birth of spirit? What recurrent maladjustment in the interplay of man and nature, of mind and matter, so constantly distorts the perspective of life and circumstance? What frustration of purpose so continuously deranges life's quest of fulfilment through unison of individual and society? What malign fate lurks on the threshold of civilisation, vigilant to arrest the ascending spirit of man, and turn its course backwards and downwards?

Even to this long inscrutable enigma there begins to appear the first approximation to a verifiable answer (as we hope to show in the following section.) And, as the Platonic student of mythology would expect, the scientific answer does but repeat that which, in essentials, poetic and religious dreamers anticipated in an immemorial past, and set forth in their own traditional ways.

*For a survey and attempted synthesis of these movements see Science and Sanctity and Living Religions. (V. Branford.)

IV. THE ELEMENTAL MALADY OF CIVILISATION.

§ 1.

DANTE'S unfolding of man's inner world, as a divine comedy, might well be made the starting point of a comparative study devoted to the movement, first divergent, then convergent, of religious vision and scientific theory, during modern times. His confusion of temporal power with spiritual influence was symptomatic of his day. And that confusion of outer and inner still distorts and torments current thought. How can we clear our minds in this matter?

THERE lived and ruled, in the time of Dante, a good Emperor, and as rated in his poetic reckoning, two bad Popes. Recall their respective rewards and punishments in that scheme of Divine justice which Dante's poem pictures for us. Henry the good Emperor is allotted a crowned seat amongst the saintly elect who are chosen to sit at the summit of heaven. The bad Popes, Boniface and Clement, are consigned to the depths of hell and submitted to tortures horrible and endless. Taken by itself, this appraisement of imperial worth and judgment of papal errancy does not necessarily indicate any uneven balance of temporal and spiritual powers in the poet's mind. But Dante wrote a political treatise as well as the Divine Comedy. And, in the prose book, he rather gives the impression that Emperors are to be reckoned as divinely appointed instruments for correcting the unrighteousness of Popes. But for his De Monarchia we might have taken the poet's appeal unto Cæsar as a cry of the heart from one who, like all great creators and revisors of Vision, was deeply moved by concern about ways of fulfilment. Take it as we may, Dante's summoning of the Temporal Power to redress the abuses of the Spiritual so far ranges him with a long line of seers who have despaired of the inner life's sufficiency for regeneration. Amongst the prophets of Israel—that amazing line of seers—the type is well exemplified by Ezekiel of old, by Karl Marx of yesterday, and by Mr. Zangwill to-day. The case has been so vividly presented by Mr. Zangwill that it might be taken for the representative setting, fitted to become classic. In his book, ITALIAN FANTASIES, in a chapter on the irony of institutions, Mr. Zangwill writes :—

" . . . . Every church and sect must be wound up after three generations. The time-limit needs elucidation. The first generation of a church or a

heresy—the terms are synonymous, for every church starts as a heresy—is full to the brim of vitality, fire, revolt, sincerity, spirituality, self-sacrifice. It is a generation in love, a generation exalted and enkindled by the new truth, a generation that will count life and lucre equally base beside the spreading of the new fire. The second generation has witnessed this fervour of its fathers, it has been nourished in the warmth of the doctrine, its education is imprinted with the true fiery stamp. It is still near the Holy Ghost. In the third generation the waves radiated from the primal fire have cooled in their passage through time ; the original momentum tends to be exhausted. Now is the period of the smug Pharisees profiting by the martyrdoms of their ancestors, babbling rhetorically—between two pleasures—of their fidelity to the faith of their fathers. If the third generation of a church can get through with fair spiritual success, it is often only because of a revival of persecution. But the third generation is absolutely the limit of the spiritual stirring. In the fourth generation you shall ever find the young people sly sceptics or sullen rebels, and the Vicar of Bray coming in for high preferment. Here, then, is the limitation dictated by human nature. The life of a Church should be wound up by the State. . . .

After three generations it must be wound up. Of course, it should be perfectly open for the Church to reconstitute itself immediately, but it should do this under a new name. If it started again afresh, the compulsory winding-up would have acted as a species of persecution and thoroughly revitalised the content of the particular *credo*. The third generation would have strained every sinew to realise their faith and bring it home to the young and fourth generation. The latter, ere re-establishing the Church, would have rediscovered its truth, and thereby given it fresh momentum to carry it through another three generations. This simple system would allow children to continue the faith of their fathers from conviction instead of compulsion, and, by terminating the right to property, would save posterity from the asphyxiation of benefactions. . . . . Endowments—there is the secret of stagnation . . . . Churches, with their cast iron creeds and their golden treasure heaps, are the prisons of the soul of the future. . . . . All church funds are indissolubly connected with the doctrines to which they were first tacked on, and changes of doctrine involve forfeiture of the belongings in favour of those who have had the fidelity or the shrewdness to cling to the original dogma. . . . . A premium is placed upon infidelity and mustiness . . . . . 'Tis Mortmain—the dead hand—that keeps back Modernism. So long as any institution possesses funds, there will never be any lack of persons to administer them. . . . . The rock on which the Church is founded is a gold-reef."

Dante and Mr. Zangwill agree with each other, and with a host of sages and mages on the wisdom of invoking Cæsar to chastise Peter for wrongdoing. That judgment may or may not be sound in reference to particular cases. In principle it undoubtedly differs from the

teaching of St. Peter's Master. Of all the sacred texts that might be quoted in support, choose this only. *Consider the lilies how they grow.* Take it literally and observe well how lilies *do* grow. Their grace and purity of white corolla, their golden splendour of staminal masculinity, spring in naked glory from an inner harmony of life untainted by forces foreign to their nature. But definite environmental conditions, as of soil, moisture, heat, are indispensable. The lily's mystic beauty is Nature's mode of expressing a relatively perfected adaptation between outer circumstance and life's inward purpose.

APPLY now to the elemental issue of civilisation, this principle of a dominant harmony, lily-like in its moulding of outer form by inner music. To be sure we must first agree as to what is the elemental issue of civilisation. Assume it to be the common-sense affair of making cities into places where the rustic life of their region may blossom and flower as do lilies. This definition will seem merely metaphorical to urban politicians who lump rustics under rubric of "the country vote"; to academic thinkers who vaguely conceive every kind of rustic as a variety of "yokel"; to lettered writers for whom rusticity means holidays in a country cottage. But in social science the path of investigation persistently turns back to rustic origins. Issuing from those sources, two main streams may be discerned, running their course in the rise, fall and renewal of civilisations. On the one hand goes the urban accentuation of reversionary tendencies in the nature-folk, with consequent impulse to organise for war under hunter leadership masked by a sophisticated integrity of purpose. On the other hand there perennially emerge from the work and tradition of forester, fisherman and miner, certain impulses and ideals which make for civic co-operation under leadership of shepherd and peasant, whose complementary visions of life stir to a civic fulfilment inviting even to the better self of the hunter.

IN the muddy mingling of these two main streams of civilisation, reversionary and progressive, the laws of civic life are darkened to obscurity. Cities forget the things that belong unto their peace. Towards the recovery of that knowledge we are bidden to pursue the lily clue; and where we find it the practical suggestions are many. One of them is this. Each generation, that sincerely desires peace in its day, should very deliberately experiment in contriving, for its boyhood and youth, a rustic apprenticeship calculated to evoke, and

make habitual, the dominant harmony of shepherd and peasant, enriched by the qualities of forester, fisherman, miner, hunter. "Mere utopianism" will be the scoff of the practical man who reads his sacred texts in the guttering light of tradition fanned by caprice. Yet, surely the utopianism is on the part of those, who, whether by learned sophistry or through faith in the formulæ of magic, maintain an educational system which runs on the assumption that figs can be grown on thistles and grapes on thorns. What else underlies our custom of teaching and preaching the ideals of shepherd, peasant and fisherman, to (and by) individuals who have never tended sheep on the hillside, never ploughed and planted in the valley-bottom, or been to sea in a fishing boat? The sacred symbols of these immemorial adaptations may be worshipped, and their meanings memorised; but, without their actual experience in life, capacity for consequent action must remain inadequate; and the dream that should flower in deed will evaporate in phantasy, unless worse befall it.

FORMALISTS at best, idolators at worst, are the teachers and preachers of sacred rites who do not first ensure the vital conditions of germination and growth. They are like the amiable gentleman of Boston who, moved by a vision of orchard fruit, planted apple pips up and down the country roads of New England. He was unaware that apple seedlings revert to the wild state unless grafted on cultivated stocks. So the mind of man, it would seem, unless grafted in boyhood and youth on rootstocks of rustic culture, lacks the habit of life and rhythm of growth needed to bear fruit of citizenship. From consequent failure of response to formal calls of civilisation there ensue certain repercussions that march with the step of destiny. Guardians of the civic heritage are driven to redouble their didactic and cultural efforts. They increase and elaborate their apparatus of transmission and ritual of evocation. Thus do churches multiply, schools and institutes of learning abound, civic cultures grow and spread like mushrooms. Symbols of the ideal, tokens of wealth, insignia of power, proliferate in profusion. In short, the appearances of civilisation are conspicuous, but not less so, the signs of reversion to barbarism. Is not that, in brief, a fair outline of the course more or less taken by such urban civilisations as have hitherto appeared upon our planet?

THERE is seen to be more of purpose behind the process than is visible on the surface, if we assume that city-making is the ever-renewing

experimental effort of man-in-evolution to do three things simultaneously. The first is to contrive a regional concert of the nature-folk, in which each member of the sextet may play his own music, but keyed above all to the dominant harmony of shepherd and peasant. The second is to correlate the ideals of youth and age, and so bridge the fracture of successive generations. The third is to devise a score adapted to generational renewal of the music, which also and at the same time enriches the dominant harmony by incorporating something from the specialised cultures of diverse regions and their cities. True it is that in this great human adventure of city-making, as yet, the misses seem to be more numerous than the hits ; and so the burden of evil appears to be outgrowing the heritage of good. But there is in such courses of treatment the encouragement of a well-assured faith that each generation may thus enjoy the entail of a fresh start, unhandicapped by past errors, provided conditions, increasingly known, be satisfied. The corresponding necessary restraints can also be stated with precision. They are these : not to pay homage to sanctity of symbols when divorced from the processes of life and nature they fundamentally consecrate ; not to amass tokens of wealth when severed from the operations of labour they supposedly signify ; not to parade insignia of power when sundered from the human values they presumably indicate.

THE peril of dissociation in things that should be inseparable lurks in the implied temptation. When it stops short of return to the concrete, then does abstraction spell reversion. To be sure the process of abstraction is a necessary office of the mind, as (say) deglutition is of the body. But the pleasures of the palate that accompany deglutition are a standing temptation to identify gluttony with nourishment. So the broad and comprehensive view of things given—even too often replaced—by mere abstraction tempts us to accept it as a substitute for vision ; and even habituates many a philosopher to such limitation. But to yield to that seduction is to arrest the life of the spirit. There is a two-fold penalty. We miss the music of angels' wings that flutter on the horizon of vision. We may thence turn back to seek compensation in the crude allurements of a primitive or lower life. But the delights conjured up are short-lived. They prove in practice to be more like nightmares than day-dreams—

> Behold ! amidst the very adyts of their gods,
> The ghosts of dead men howling, walk about.

§ 2.

AN indictment of theology was framed by early sociologists on the ground of its too frequent association, past and present, with War. To-day the indictment would be drawn on more embracing lines. All who are given to habitual dwelling in the realm of abstraction must also be brought within its charge. The sociologist himself, when he lays aside his own phylactery, may even be the first to confess and plead guilty. The manifest truth is that purely urban thinkers can scarce fail—of falling victim to the abstract habit of mind. And the same is too true of the whole body of townsmen, in degree and kind. They differ usually but in the sort of abstraction they pursue, and in the extent to which its mirage is mistaken for reality. Worship of some formal fragment, set up as an idol of unity, follows inevitably. Hence philosophers consecrate "Thought" for their idol; scientists, "Knowledge"; poets, "Rhythm"; writers, "Style"; artists, "Values"; politicians, "Prestige." The man of business puts his faith in the magical potency of pecuniary symbols—"the Almighty Dollar"; and the labourer in money "Wages." And who, whether of urban life or rustic, does not in secret shame raise the shrine of an unconfessed "Self," floating in the void beyond time and space?

EACH order of specialized abstraction has thus its own idol, its ceremonial, and even an imagery of perfection, whereby integrity of purpose may seemingly be effected, and so the fullness of life attained. But the integrity proves an illusion, and the attainment a mockery. That is nature's nemesis for denial of life's unity. Its poison lurks in every cult of the abstract. It is the revenge of inner vision violated by the abstractionist's lapse into unavowed practice of magic. And in the long run the penalty is fully exacted. For, as we are told, "out of the mouth of the Ideal goeth a sharp sword and with it He smiteth the nations." They cannot in the end escape that iron rule. The integral impulse perpetually reasserts its primacy. A fleeting compromise is possible, for the individual skilled in the make-believe of a double life. But communion of citizenship is not to be had that way. The city therefore drifts further and further from "the things that belong unto its peace." Too seldom there lingers among the citizens at large, any memory of a peace deep and calm yet militant, since the last "successful war." Thus to a multitude of other reversionary trends is added the drive of a backward impulse within the very heart of the city.

ALL the sorceries, bedevilments and vile things ascribed to " the great city," by the author of REVELATION, are condensed into a pictured presentment of it, now as dragon, now as whore. Take these figures respectively to stand for the brute in man, the animal in woman, and what symbolism could better indicate civic reversion to hunting savagery ? Its imagery even particularises characteristic debasements of temporal and spiritual powers. Some of the detail may be seen in Blake's portrayal of BABYLON, as a bejewelled Beauty, who, profanely decked with civic coronal and flaunting the sacred cup, rides a man-headed and man-eating dragon after its human prey. In the Apocalypse itself, urban shadows are darkened by contrast with the bright characters that prefigure the holy city, the New Jerusalem. Recall its conspicuous features. They are walls of precious stones and pavements of gold ; irrigation waters and fruit trees ; and the whole city, by day and night, vitalised and illuminated by mystic radiance from the Divine Lamb. Does not this pattern of the perfected city call up as a complementary picture the synthesis of rustic life and labour ? Perhaps not indeed to later urban folk ; yet how else could the text have been thus written ? The New Jerusalem's rural background is manifest. It is that of the miner's finest quests ; of the forester-engineer at irrigation, his highest achievement ; of the peasant developed to gardener and fruit-grower ; and it shows these three rustics all grouped round the Lamb, central interest and ideal of the Good Shepherd. There are to be sure, two omissions in this higher economy of the heavenly city. That of the hunter is intelligible ; since assurance of his civic conversion cannot be guaranteed. More strangely, we miss the fisherman and his net, that gathers in all without our formal distinction of clean and unclean, yet with cleansing from the highest source. But St. John might well take St. Peter for granted !—and indeed later tradition keeps him at the Gate.

FOLLOW next the course of civic reversion ; and observe its complexity of development, its subtlety of reaction. Through intertribal feuds and inter-civic strifes runs the way to international war. The strange thing called nationality has many factors as yet far from completely analysed. One of them assuredly is this. Amid the strife of cities and regions for dominance there arises, in its favouring situation, the metropolis. In its rise to supremacy, the growth of metropolitan numbers and prestige, necessitated by concentration in and for war, has been often a main element. To maintain and develop these

advantages, as an initial asset towards the next war, seems commonsense policy, alike for the nation and for its metropolis. The national and the metropolitan interest coincide in this aim, so long as the war habit and outlook persist in the population at large. It assuredly follows that an impulse to maintain that habit of mind can hardly fail insidiously to insert and disguise itself in organs and institutions of metropolitan origin, habitat, or direction. Even if hunting tendencies to reversion were not at work, the sheer conditions of survival are bound to implant the militarist desire deep in metropolitan minds; and the integral impulse compels its disguise by cultural mimicry. As Milton sagaciously makes his Prince of Mischief say:

> . . . . . War, then War,
> Open or understood, must be resolved.

THESE deep-seated influences that indirectly make for war, in minds habituated to a centralised nationalism, are well illustrated in the rewards of obedience to putatively pastoral ideals promised by the metropolitan priesthood of ancient Jerusalem. Unconsciously the impulse of nomadic reversion had crept in and laid hold of the Deuteronomic writer who argued for his version of spiritual reform by recalling memories of cities conquered and loot won in the past by loyal service to the god of battle. This reforming priest managed to convey to the people a hint that acceptance of his proposed improvements in the laws of the Temple would be rewarded by gain of "cities which thou buildest not; houses full of all good things which thou filledst not; vineyards and olive trees which thou plantest not." It may be that temple priesthoods of old and their modern variants—such as metropolitan journalists, governmental inspectors of education, imperial historians—are all more akin in mentality, than is commonly supposed to ancient shepherds on scanty hill pastures, tempted to turn bandits and raid the peasant cities of the plain.

§ 3.

CONTINUOUS revisions are manifestly needed of visions old and new; and not only in theology but in all the -ologies and -isms that lend themselves to reversionary impulse by reason of over-abstraction from life and labour. Where urban conditions bar the nature-folk from fulfilment of civic purpose by growing like lilies, there the pecuniary culture grows like charlock in an uncleaned field. So does our

anthropology suggest a modification, slight in form but considerable in substance, of Mr. Israel Zangwill's criticism of religious institutions. His " gold reef " is not the rock on which the church is founded, but that on which it founders ; as do all institutions and societies which permit abstraction to replace vision at the helm of life's frail bark. Distressed beyond endurance at thought of the coming shipwreck which he foresees, the prophet, in a confused mingling of wrath and compassion, so far forgets himself as to utter a despairing appeal unto Cæsar ; or as the plain man might be privileged to say, he calls in a policeman to replace the helmsman.

" THOUGH forward we canna' see we guess and fear," wrote Burns ; and thereby defined the timorous habit of mind that comes with the abstract mood of life. Vision and courage are filiated, as alternately parent and offspring. But so are illusion and fear. A society of predominantly abstract outlook therefore tends to take counsel from leaders, who, because they lack vision, are driven to guess and fear. And being given to the fear habit of mind they grow more and more obsessed with the illusion that the way to avoid war is to engage assiduously in preparing to wage it. Amongst the eminent publicists, imperial statesmen, front-bench politicians, able editors, metaphysical philosophers, Herodian eugenists, environmental scientists, Anglican deans, business magnates and millionaires, whose opinions we habitually follow, it is not unlikely that counsellors of this type are to be found. In his older dispensation, an outspoken and clear-headed prophet of Israel denounced their kind as " false prophets " who " *having seen nothing*," predict the things they secretly wish to happen. In all ages their cry is " peace, peace, when there is no peace." Their opportunity is provided by each generation in so far as it fails to finish that passage, and compose the vision of a true peace, one that is not mere absence of war, but is charged with ideals verifiable yet militant, integral yet regional, in a word, Eutopian.

THAT generational failure has occurred with distressing regularity in the past. Hence we commonly fly to the conclusion that it is " human nature," and in the nature of things. No doubt it is so. Yet equally is it human nature in the course of things that a dream of perfection revisits each generation of youth. If this vision were presented in guise of the New Jerusalem, or of the Old Babylon, as St. John saw them in his cloister of Patmos, then the choice could be made, with a

knowledge of vital issues. But suppose the New Jerusalem comes only as an abstraction, and that moreover standing in dubious relation to the problems and prizes of ordinary and familiar life, the only life we have been allowed to know. Suppose also the Old Babylon, perpetually reincarnated in the nearest Great City, seductively offers career and success in speedy return for our ambitious strivings. That is the modern life-dilemma, perennially thrust upon youth by seniors who neglect to revise old visions which need revitalising for each oncoming generation. So do our " happy Christian homes " become, as James Hinton remarked, " the real dark places of the earth."

THERE is bite in this jibe of the sceptic. He exposes the perils of people arrested on the inclined plane of civic purpose. What of old was provided by life as an ascending plane of vision, becomes a descending plane of division, when the mystic impulse suffers arrest, as in our day. Let the sacred triangle of ideal personality be viewed for the moment as right-angled. Its base is the abscissa of nature ; its vertical side, the ordinate of labour. Its hypotenuse is then a section of the upward plane of life perfected ; yet the whole triangle may invert into the downward slope of life debased. And, since " the corruption of the best is the worst," the sacred triads of the higher religions may be turned through reversion to perversion, when labour is no longer vital, when personality is divided, and the inner life torn by mental dissociation. Yet that which, in exasperated impatience we call " the failure of Christianity," and the like in other religions of inner perfections and graces, is assuredly a mark of persistence in man's ever-renewing effort to ascend the inclined plane of civic purpose, towards occupational realities and their vital idealisms.

EDITORIAL NOTE.

MEDICAL men in their handling of disease increasingly have recourse to "team-work." Various specialists each make their own diagnosis of the patient, and set out a corresponding course of treatment. Then a physician of all-round competence, gathering the pooled resources of his specialised colleagues, brings to bear his wider experience, and his trained sense of unity, for the better understanding of the case and its more skilled treatment.

IF the team-work of scientifically equipped specialists be vital to progess in medicine, how much more so in the unravelled complexities of social and economic ills? But for the co-ordinating of specialised knowledges bearing upon the problems of contemporary civilisation, where are we to look for the appropriate social physician? His qualifications must come from trained aptitude in the unities of life, mind, morals and society. What indeed are these unities? Where are their beginnings in science to be found, and how cultivated towards working efficiency? To shirk these questions is to abandon the discussion and treatment of social and economic ills to an empiricism, which, in medicine, would be called quackery.

IT is for sociology (ill-equipped for the task though as yet it may be) to infuse the discussion and treatment of current ills with the quickening spirit of a synthetic science. As a modest contribution to such discussion of the Coal Crisis, the present studies are submitted, though of necessity preliminary and tentative. They are offered as but illustrative samples of resource waiting to be brought to bear when the whole field of the sciences—not only those of inorganic nature, but also those of life, mind, morals and society—comes to be exploited in the common interest.

THESE studies open with a paper which attempts what may be called a sociological orientation of the Coal Question. Here the coal crisis is viewed as symptom of a deep-seated malady in the body politic. We are (so the diagnosis runs) in the throes of a National Transition. We may hope to effect a smooth passage through the trials and troubles of this Transition, in proportion as we make thoroughgoing application of verified knowledge too much ignored in the political and economic discussions of to-day.

THIS introductory paper is followed by four others, which sample the manifold contributions to public welfare in general, and the coal question in particular, to be drawn from the physico-chemical sciences, from biology, and from the simpler aspects of social science. Practitioners of all these (as applied science) begin to unite and work together as a team under the Town-planner; as here illustrated in Professor Abercrombie's paper on the Planning of the New Kent Coal Field.

BUT what to do in, and for, the old Coal-fields? There manifestly is the crux of the present crisis. What better future for these deteriorate regions can be foreseen through co-ordinated readjustments suggested by the specialised sciences working under synthetic guidance from sociology? It would be idle to pretend that here, or elsewhere, sociology has so far attained to any clear vision of a way out from present entanglements.

FOR efficiency in this higher feat—the clear visioning of a better future realisable by definite planning—sociology needs the aid of specialised knowledge from the mental and moral sciences, comparable to that which it can draw from the physical and organic sciences for technological and hygienic readjustments. But, alas! the mental and moral sciences, in their present confusion, are of little avail for the purpose. Hence it is, that, in handling the deeper issues involved in such complex situations as that of the Coal Crisis, the sociologist is apt to appear a solitary figure with a hard row to hoe.

IT will scarcely be denied that each deteriorated coal-field is itself but a representative sample of a deteriorate civilisation. The Coal Crisis is but the concentrated expression, and virulent outbreak, of a crisis in our national life. We can no more hope to handle with success the lesser evil in separation from the greater, than could a public Health Authority deal with an epidemic by attending to a few isolated cases. Assuredly it follows that if the Coal Crisis is adequately to be dealt with, the underlying evils must at the same time be diagnosed and treated. Hence the need for an outlook of widening range and an inlook of deepening penetration.

ACHIEVE that larger perspective upon the ills of contemporary civilisation, and great changes in mental attitude come about. For instance, do not monetary adjustments appear as of but secondary import? Yet it is true that a working solution of extant difficulties, whether in the

coal-mining or other major industry, has to be found, and applied, in terms of prices, wages and profits.

Now the contention of those who put forward the sociological view is this. The more the minds of the several disputants, and their respective counsellors and supporters, can be oriented to the larger problems and more significant tasks, then the easier it will be to find and apply the required monetary readjustments, and the more lasting their effect. Such is the case for presenting the Coal Crisis within the framework of a general issue.

It should be explained that the earlier papers were presented at a meeting of the Sociological Society at Burlington House in October.

LEPLAY HOUSE.

MEMBERS and Associates are reminded that subscriptions fall due on January 1st. The Report of the Council circulated to Members and Associates in November was adopted at the General Meeting held on Friday, November 20th. The accounts for the year 1925 will be circulated with the April number of the SOCIOLOGICAL REVIEW.

THERE will be a joint meeting of the Sociological Society and Leplay House at Burlington House on February 23rd at 8.15, to hear and discuss a paper by Dr. Dunlop on The Malthusian Doctrine in Sociology.

OLD ISSUES OF THE SOCIOLOGICAL REVIEW.

FOR some time past there has been a shortage of back numbers of the SOCIOLOGICAL REVIEW. There is a constant demand for complete sets of the REVIEW from its commencement or for a certain year or period of years, and also for single back numbers. These requests unfortunately cannot always be met. It would be much appreciated if readers who chance to have spare copies of back numbers or who do not keep their sets for binding, would be willing to let us have them so that we may supply these orders. The issues of which we are in special need are :—

Vol.	I.	1908. All four numbers.
Vol.	II.	1909. All four numbers.
Vol.	III.	1910. October.
Vol.	IV.	1911. October.
Vol.	V.	1912. April and October.
Vol.	VIII.	1915. April.
Vol.	XII.	1920. Spring and Autumn.
Vol.	XIII.	1921. January.

LETTERS should be addressed to the Manager, Leplay House Press, 65 Belgrave Road, S.W. 1.

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Dunham (F. L.). AN APPROACH TO SOCIAL MEDICINE. Baillière Tindall and Cox. 1925. (20s.)

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Bulletin de la Statistique Générale de la France: Vol. XV., 1925-6. No. 1: October.

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Economic Journal: Vol. XXXV., 1925. No. 140: December.

Eugenics Review: Vol. XVII., 1925. No. 3: October.

Garden Cities and Town Planning: Vol. XV., 1925. No. 10: October; No. 11: November.

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Weltwirtschaftliches Archiv: Band 22, 1925. Heft 2: October.

GREETING TO L'ANNÉE SOCIOLOGIQUE, N.S. Vol. I.

I GLADLY accede to an editorial request, or mandate, to write a few words of congratulation, in the name of the Sociological Society, on the revivication of L'ANNÉE SOCIOLOGIQUE, after twelve years of intense activity followed by a period of quiescence of like extent. The names of the present editor and of his brilliant circle of co-workers would suffice to assure us, even were the first volume of the new series not in our hands to confirm the conviction, that the mantle of Emile Durkheim has descended on worthy shoulders. Durkheim will live on in the work that he initiated; for his was the spirit not of a *doctrinaire* but of a man of science, nay, a scientific genius, who, believing wholeheartedly as any pioneer of science must believe in the validity of his method, was nevertheless prepared to put it to the acid test of an uncompromising verification.

I CAN remember how in my youth at Oxford, that home of ancient prejudice, we were warned by our teachers against Sociology not only because the word itself was barbarous, but because the professors of the so-called science were ideologues who but beat the air. There was even a rumour that the custodian of a famous library would reject offhand any book that alluded to sociology in its title. Whatever modicum of truth may have inspired such animosities in far-off days, there could at any rate be no longer any doubt, whether in Oxford or in the world at large, concerning the value of sociological studies when Durkheim and his friends, with their insistence on strict method and on the most thorough documentation, had, in a long series of constructive monographs and critical notices, demonstrated the all-important influence of the social factor in the history of man. There may have been occasions when some of us were not sure whether the view taken of the psychological side of human activity was not unduly mechanistic, or at all events deterministic. Even so, a method that never shrank from reckoning with all the available facts, including mental facts, had a right to select its own presuppositions, since the final results and not the initial steps must admittedly prove or disprove the adequacy of the principles involved.

SPEAKING for myself may I say, as one whose main concern has been with the simpler forms of human culture, that I have obtained the greatest help from Durkheim and his followers? For in this department of human history the effects of individual initiative are not marked, whereas primitive custom and belief almost resemble language in the uniformity and sheer coerciveness of their shaping effect. At the risk of being thought unpatriotic, I would even allow that the British school of anthropology as represented by the great

PERIODICALS RECEIVED.

AMERICAN ECONOMIC REVIEW: Vol. XV., 1925. No. 4: December.

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SCIENTIA: Year XIX., 1925. October, November, December. Year XX.: 1926: January.

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WELTWIRTSCHAFTLICHES ARCHIV: Band 22, 1925. Heft 2: October.

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mid-Victorians was addicted to a one-sided method derived from the psychology of the individual; and that it needed a strong hint from across the Channel before any of their humble successors, those *Epigoni*, of whom I am one, could be persuaded to reform his ways. As it is, no British student of social anthropology to-day is likely to feel that he and his French colleagues are pursuing any but the same path—a path which Durkheim did so much to hew out amid a tangle of inveterate fallacies and superstitions. Without any reservations British investigators engaged on any of the manifold tasks of social science will heartily welcome the co-operation of the brave band of workers that has assembled at the re-elevation of Durkheim's famous standard. Nor will they, indeed, be much surprised if they receive more help than they can give in that common fight which all of us are waging against the serried ranks of ignorance and unreason.

R. R. MARETT.

CENTRES OF WORLD POWER[1]: By C. B. Fawcett, B.Litt. D.Sc., Reader in Geography, University of Leeds.

IT is a commonplace observation that the great development of the means of communication during the last two centuries has so linked together all the countries of the world that now, for the first time in history, the whole world forms one closed system, and many kinds of change in any one country produce effects in every other land. This development of intercourse and interdependence among all the varied regions of the earth has led to a great increase in the range of influence of dominant peoples: it has been accompanied by a process of concentration of economic and political power and of cultural influence into a few well marked regions, whose standards of culture and opinion tend to set a world-wide fashion in economic, social and political development. Such regions may be termed "Centres of World Power," and it is the aim of this paper to define the position and extent of the principal regions of this type, and compare them in some respects.

THE two factors which determine the power of any region are first its people and their traditions, and next the interplay of these with the natural resources of the region. Broadly stated, our problem is a comparative study of man-power in relation to and interacting with the available natural resources of various regions of the earth.

THE man-power of any people is a function of many variables, the more important of which are their numbers—the general level of energy, intelligence and education among them, particularly among their leaders—their standards of well-being and the stage of culture they have reached—and consequently their power of united action and capacity for organising and being organised to serve a common end.

NOT all these factors in man-power are directly geographical; but geographical conditions influence all of them and determine some of the more important. A numerous population can exist only in an extensive region of favourable environment which allows of continuous settlement—a fact which is probably best realised by comparing such a region, e.g. Europe, with an equal area of desert or tundra. Without frequent intercourse among people of somewhat differing environment and ideas no strong and varied social development is possible: and again the large region capable of continuous settlement, and including many varied sub-regions, is the favourable area. In strong contrast to the distribution of people in such a region are the scattered, and often merely temporary, habitations of the peoples of the barren lands, which

[1] This paper is in some respects a sequel to that "On the Distribution of Population over the Land," which appeared in the SOCIOLOGICAL REVIEW for April, 1925.

almost prohibit such social developments, and the isolation of many small groups of people in small islets or mountain valleys which also hinders intercourse and the growth of civilisation.

THUS the first requisite for a region which can form a centre of world power is a large continuous area of habitable land capable of supporting a sedentary population; since only on such an area is it possible to have a sufficiently numerous and united people.

THE second factor in man-power mentioned above is that of energy, which may under some conditions be the first in importance. The general level of energy amongst any people depends on many factors, some of which are intangible. But it is generally agreed that one of the most important of these factors is the character of the climate in which they live, and that the peoples of the Temperate Zones are on the whole more energetic than those of the Hot Lands; and that within the Temperate Zones the peoples of the Cool Temperate regions are similarly more energetic than those of the warmer lands. If this view is right then, provided their lands are capable of supporting a large population, the peoples of the cooler parts of the earth have in this respect a great, and probably a permanent, advantage over those of the warmer regions. The chief studies of the direct relations between climatic factors and human energy are those of Dr. Ellsworth Huntington,[2] and he has at least succeeded in demonstrating that the widespread belief in the enervating and numbing effects of hot and monotonous climates respectively has real foundations.

THUS we may postulate as the second requisite for a region which can become a centre of world power that it must be in one of the Temperate Zones.

THE first requisite, that of a large continuous area of habitable land, implies certain very definite climatic conditions, in that the region must be one having sufficient heat and moisture for the growth of food plants over the whole of its fertile lands. Hence we can leave out of account the polar margins of the continents, which have not sufficient heat, and the arid regions of insufficient rain. And the second requisite also rules out the lands of the Hot Belt as too enervating.

AN examination of the climatic maps of the world with these limitations in mind enables us to mark out a small number of regions suitable for the development of numerous and energetic peoples. The chief of these are (see map) :—

(1) EASTERN NORTH AMERICA, from near the Gulf of Mexico northward to the polar limit of agricultural settlement in Canada, and westward from the coast of the Atlantic to the borderland which marks

[2] See e.g. his CIVILIZATION AND CLIMATE, Yale University Press, 1922, and other works.

the transition from the humid east to the semi-arid west. In the United States this is approximately marked by the twenty inch annual isohyet and lies near the hundredth meridian west of Greenwich: but in Canada it bends further west, and the region favourable to settlement reaches the foothills of the Rocky Mountains a little north of 50° N. lat.

(2) A second and larger region of this type occupies most of EUROPE,[3] where it extends northward from the edge of the Sahara desert to the northern limits of agriculture, and eastward from the Atlantic to the arid steppes of south-west Asia and south-east Russia; it has a north-eastward projection to the foot of the Ural Mountains marked by the valley of the Kama river, which is analogous to the north-westward projection of the habitable land of Canada to the foothills of the Rockies in similar latitudes.

(4) A third region of the type, which is approximately equal in area to the first one mentioned, is that of the "FAR EAST," bordering the Pacific Ocean from 20° to 40° N. lat., extending inland to the eastern foothills of the Tibetan plateau and the edge of the deserts of Mongolia and the East Siberian highlands, and including the Japanese islands south of Yezo.

THESE three major regions are by far the most important regions of the type we are here considering, and they are probably the only regions which are capable of being, in virtue of their own resources, real centres of world power. The remaining fertile areas in the North Temperate Zone are all relatively small and widely scattered, in the valleys of the Pacific coastlands of North America and the irrigable tracts of Central and Western Asia. The chief of these minor regions is the fertile belt of (3) Western Siberia, which is closely connected with the European major region.

IN the South Temperate Zone there is comparatively little land, because of the narrowing of all three continental ridges towards the south; and hence there is no room for the development of any regions comparable in extent to the three major regions of the North. But in each of the southern continents there is a smaller region of this type (see map), and these do in some degree resemble those of the north on a smaller scale. They are (5) the La Plata region of South America, (6) the south-eastern half of the Union of South Africa, and (7) south-eastern Australia, with outlying areas in south-west Australia, Tasmania and New Zealand. But the largest of these is little more than one-third the area of the smallest of the great northern regions;

[3] In this paper our European region includes all the habitable lands round the Mediterranean, except Egypt.

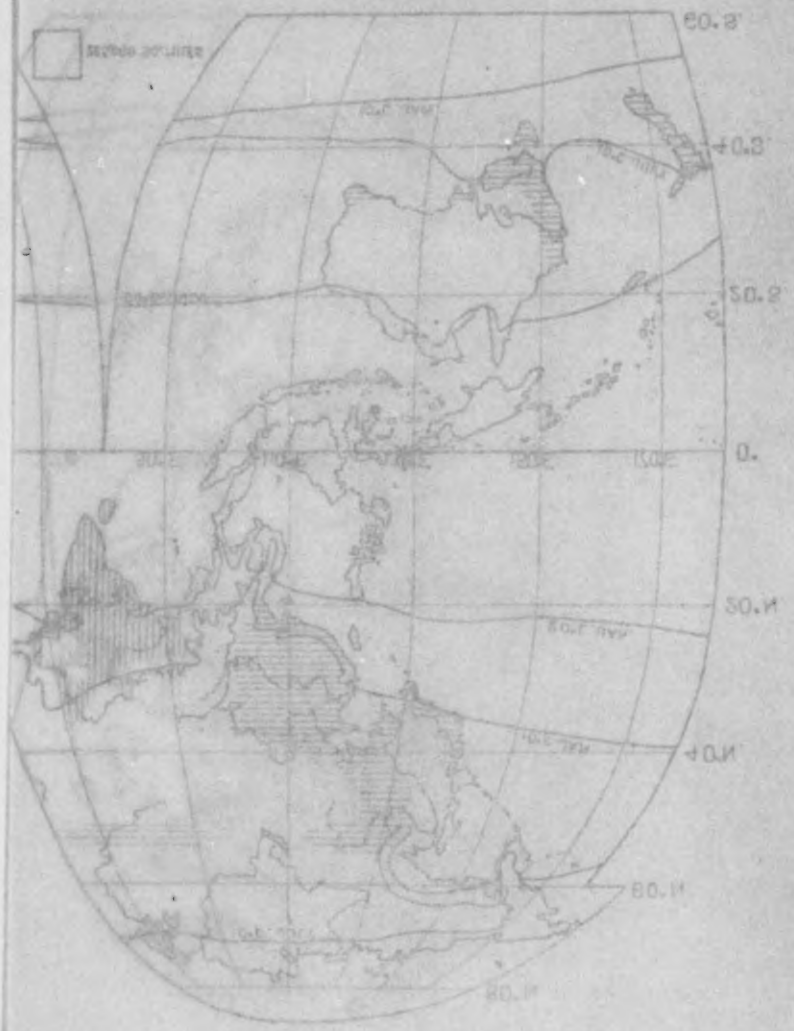
while the total area of all the fertile lands of the South Temperate Zone is less than that of either the North American or the Far Eastern major regions.

THE next step is to compare the three major regions among themselves in respect to the geographical facts which affect their importance. Their landward limits are necessarily fairly wide frontier zones, since the transition from fertile to barren lands is usually gradual; hence their areas can only be stated approximately. Also, since their limits do not coincide with political boundaries, it is not possible to give more than a similarly approximate estimate of their populations, even in Europe and North America where there are fairly reliable census records. The North American region contains nearly two million square miles of land and a hundred million inhabitants. The European region is larger and far more populous, with slightly less than three million square miles of land and four hundred and fifty million people. While the Far Eastern region is substantially equal in area to the North American, and probably five times as populous.

ANOTHER factor of importance in comparing these regions is that of their relative positions in the climatic belts, which depend primarily on the latitude. Europe is mainly in the Cool Temperate Zone. Its most populous areas lie between 45° and 55° north of the equator; while its southern lands in the Warm Temperate Zone are approaching the desert, and are in general lands of low rainfall, and on the whole less fertile and productive than the corresponding lands of the other two major regions.

EASTERN North America has its most populous and important areas and its chief cities between 38° and 48° N. lat., a few degrees nearer to the equator than those of Europe; and a much larger proportion of its area is in the Warm Temperate Zone. It is on the whole a warmer region, especially in summer. Its southern portions are also much better watered and more fertile than the southern lands of Europe, and so are capable of greater agricultural production. It is probable that its capacity for producing food, and therefore the numbers of the population it can support, is not less than that of Europe, in spite of its smaller area.

IN respect to position in latitude and climate our three major regions form a series, and the Far East differs from eastern North America very much as that region differs from Europe; except that Europe is on the western margin of its continent while the other two are East Margin regions. The most populous areas and most of the great cities of the Far East are between latitudes 28° and 38° N., while almost the whole of the region lies in the Warm Temperate Belt of hot summers. In shape, as it appears on the map, this region differs markedly from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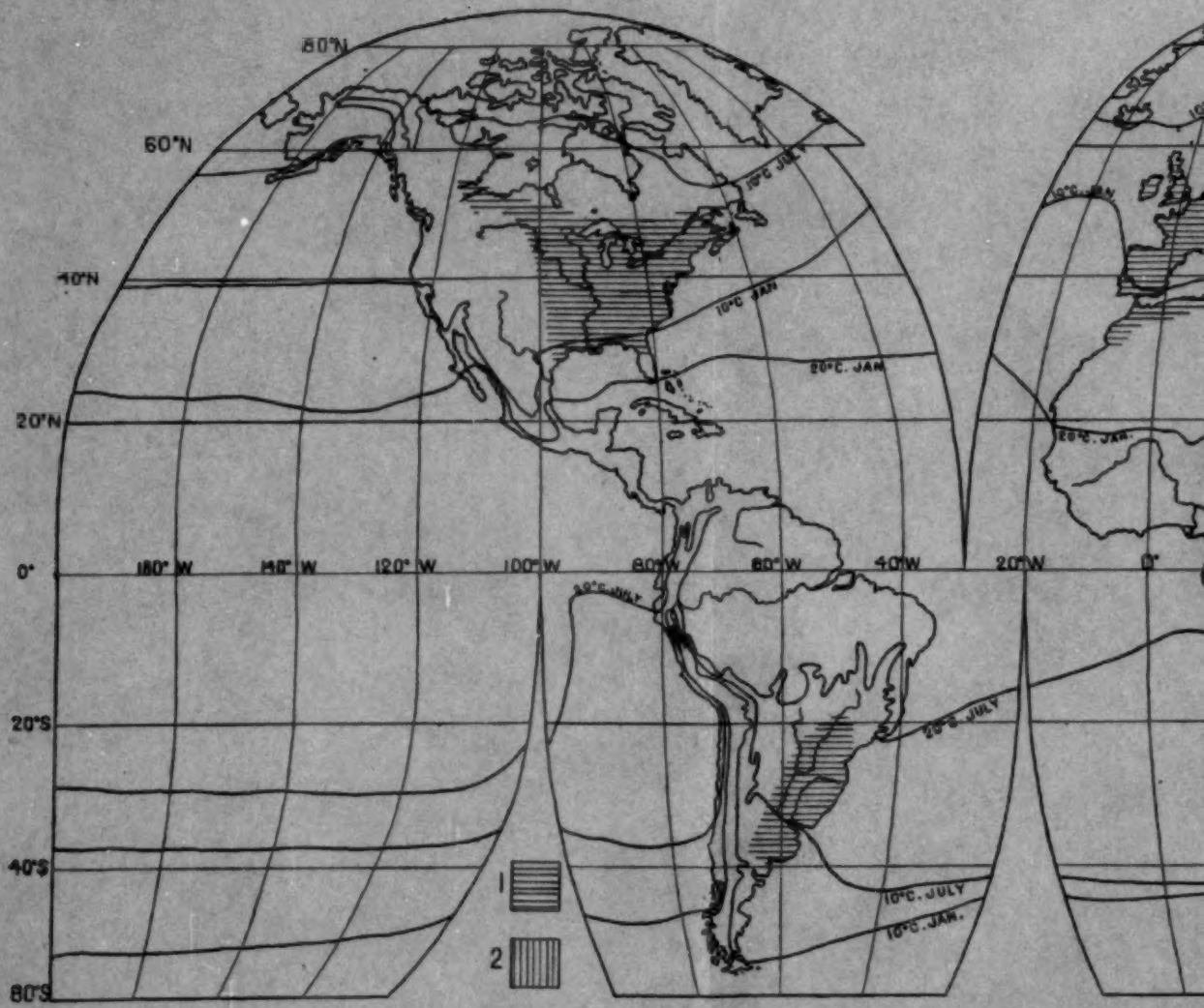
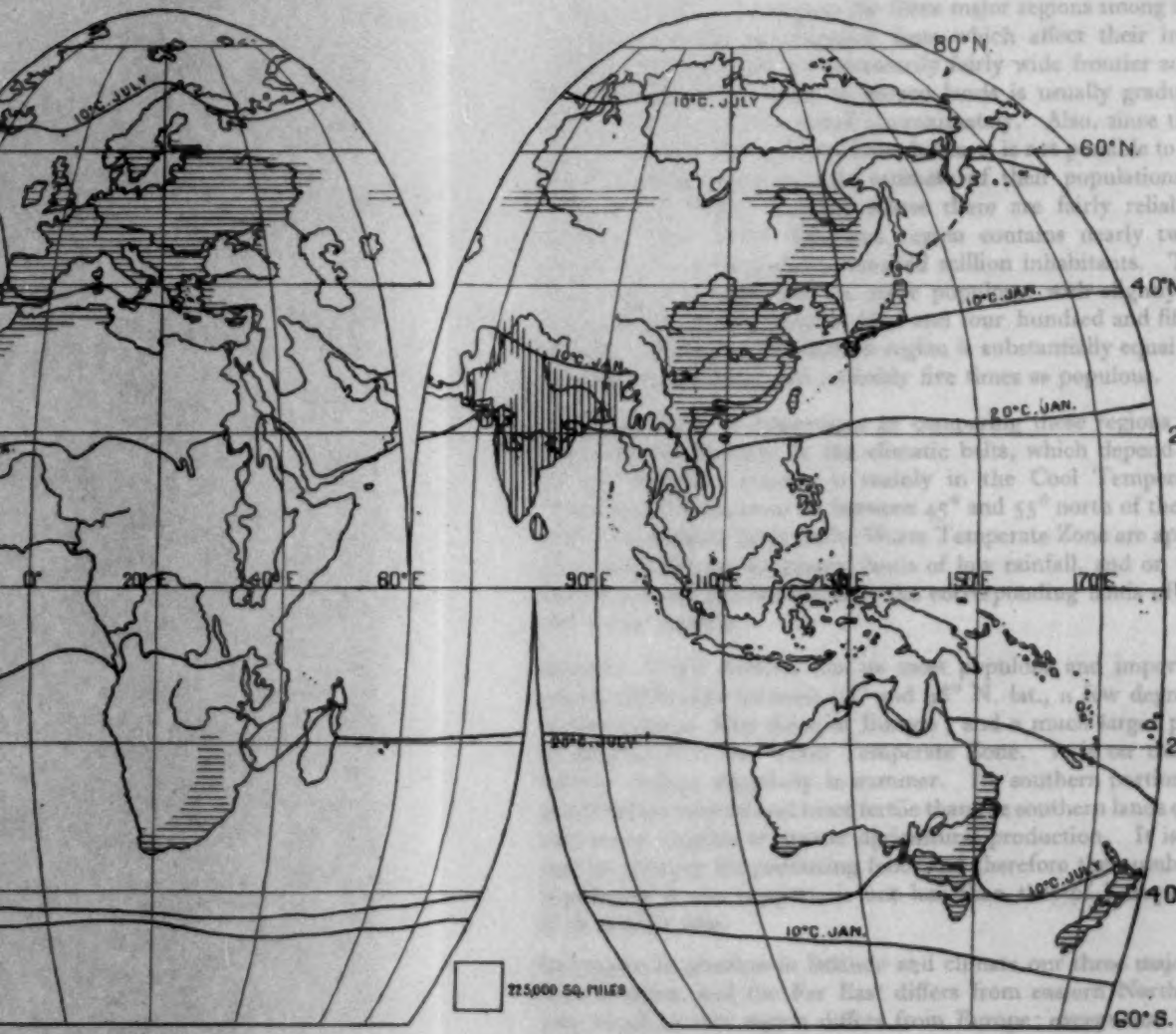
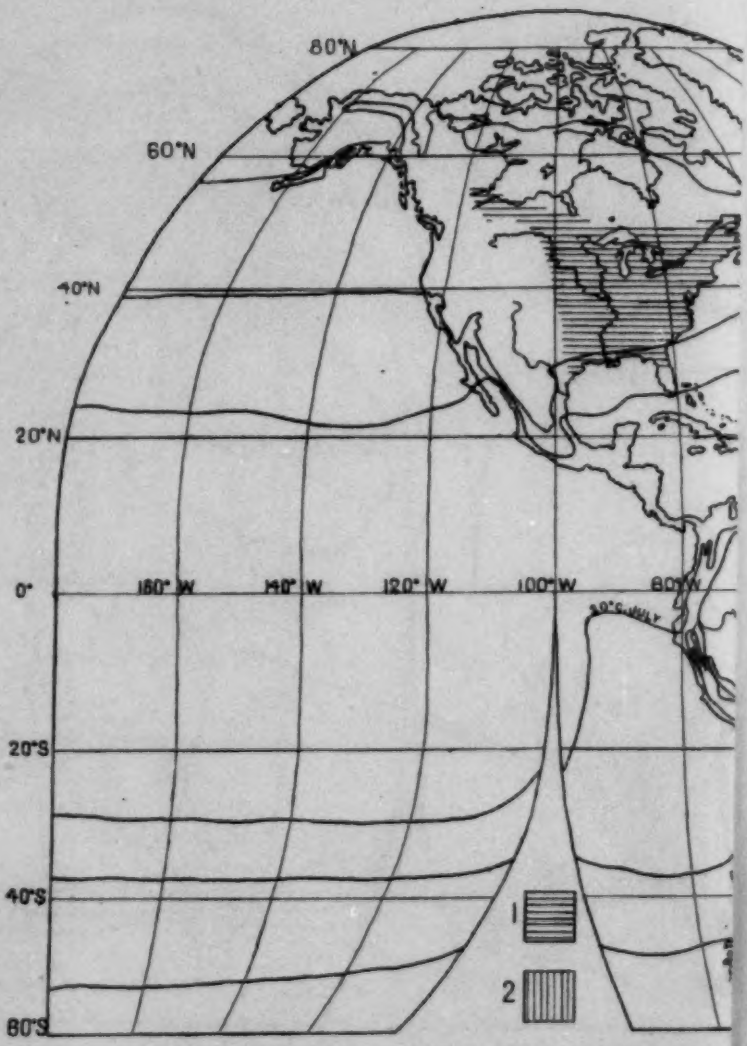


THE shaded areas indicate the chief fertile lands in (1) the temperate zones and (2) India. These are named in the text
THE isotherms marked show the mean surface temperatures for the months named.
THE map is drawn on an interrupted elliptic equal area (Mollweide) net, based on Goode's modification, chosen to give



n the text and listed in the table on p.

en to give correct representation of relative areas together with a minimum distortion of the shapes of the Continents.



THE shaded areas indicate the chief fertile lands in (1) the ten
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the other two. The approach of the desert and the sea to each other in the neighbourhood of Pekin, near lat. 40° N., gives it a division into three great lobes which are China Proper[4], the Japanese Empire, and Manchuria with the Amur Valley, respectively. These three sections approach each other round the northern end of the Yellow Sea, but diverge widely as they recede from that focal area. China Proper contains half the area and four-fifths of the population of this Far Eastern region; it is wholly south of 40° N. lat., and is a warm temperate land with sufficient rainfall, comparable to the southern half of the North American region. Manchuria is the least populous of the three sections, though second in area; it is wholly a region of cold winters and is similar in climatic conditions to the Middle West of the United States and Canada in the same latitudes. While Japan has, over its populous islands, a wet warm-temperate climate with relatively mild winters.

THESE comparisons are summarised in the following table, which also gives corresponding data for the principal minor regions and for (8) India. All the figures are first approximations.

Region.	Area in millions of sq. miles.	Population in millions.	Central Latitude.
1. E. NORTH AMERICA .	1.9	100	40° N.
2. EUROPE . . .	2.8	450	50° N.
3. West Siberia . .	0.2	?	55° N.
4. FAR EAST . . .	1.9	500	35° N.
5. La Plata . .	0.7	20 ?	35° S.
6. E. South Africa .	0.4	5	30° S.
7. Australasia . .	0.5	7½	35° S.
8. India . . .	1.0	300	25° N.

As another result of the location of these regions on the globe, Europe and Eastern North America are much nearer to each other than either is to the Far East. The distance between their approximate centres of population, in Germany and the Ohio Valley respectively, is about 90° of longitude, or a quarter of the earth's circumference; while the corresponding distance between Europe and the Far East is 105° and between Eastern North America and the Far East 165°. The populous shores of Europe and North America are separated by only three thousand miles of open ocean, which is half the distance by the ordinary routes across North America and the Pacific Ocean between China and the populous areas of the United States. The sea routes from

[4] i.e., The "Eighteen Provinces." Since 1907 the three provinces of Manchuria are also reckoned part of China; as is also the distant province of Sinkiang.

the eastern and western shores of the North Atlantic to the Far East, via the Suez and Panama Canals respectively, are nearly equal in actual length of voyage; but the Suez route has the great advantage of coasting the Continent. With the development of effective overland communications the Far Eastern region will be effectively, as well as actually, nearer to Europe than to North America. So that Europe has in fact a central location between the other major regions.

In relation to the minor fertile and habitable regions of the North Temperate Zone, which can be regarded as actual or potential outliers of the major regions, and may add to their importance, it appears again that Europe holds the most advantageous location. The position of the great mountain systems and deserts of Asia and the extension of the northern lowland of Eurasia make the fertile lands of Western Siberia and of Central and Western Asia much more accessible from Europe than from China and Japan. And though the total area of these fertile lands is probably not more than a fifth of that of our European region yet they are considerably more extensive than the corresponding areas of the western half of North America, which are similarly outliers of the populous Eastern region of that continent; while the minor fertile lands of temperate Asia east of the great barrier of desert and mountains are still less extensive.

Each of our three major regions forms the northern habitable portion of one of the three continental ridges which stretch southward from the broken ring of land round the North Polar Sea, and so is in direct contact with one of the principal divisions of the lands of the Hot Belt to the south of it. Europe lies directly north of Africa, but is separated from its fertile areas by the whole width of the Sahara, the largest desert on the earth; while there is no such barrier on the eastern margins of the continents to cut off Eastern North America from the West Indies and South America, or China from the East Indies. Hence Europe is, because of its higher latitude and the position of the great desert, both further away and more definitely separated from the inhabited lands of the Hot Belt than either of the other two major regions. This greater separation is reflected in the difference between the races of Europe and Negro Africa. But round the Atlantic Ocean the projection of Brazil nearly forty degrees east of the longitude of New York counterbalances the higher latitude of the chief ports of Europe so far as to make the east coast of South America south of Cape San Roque practically equidistant from the great centres of population in Europe and in North America.

So far we have compared our three major regions only in respect to their climatic conditions, extent, populousness, and location. We should also note that they contain the greater part of the world's known accessible coal resources. In the magnitude of its known

supplies of coal (and iron) North America is the wealthiest of the three, with the Far East probably second to it. But all three have large coal supplies. In respect to other sources of mechanical energy, which are not as yet successfully utilised on any large scale, but which will be more permanent than the non-replaceable stores of coal in the earth, the three regions are equally favoured. Of these sources of energy the winds and tides are the greatest ; while that of falling water is at present more easily utilised but is insufficient in quantity to replace coal. In the possession of coasts on which the tidal range is well above the average these three regions have almost as great an advantage over the rest of the earth as they have in their stores of coal, and they are also very favourably situated for the utilisation of wind-power ; so that the development of effective means of harnessing these forms of energy will tend to increase their importance as centres of world power.

THE next matter to be noted is the political geography of these regions. Eastern North America is divided between only two independent powers, the United States of America and the Dominion of Canada, the latter being now in population and wealth the second state of the British Commonwealth. At present the United States outnumbers Canada in population by more than ten to one ; but this excessive disproportion is due to the earlier development of the States rather than to any corresponding superiority in natural resources. In the extent of cultivable land the proportion is more nearly between three and two to one, though the shorter growing season due to the more northerly position of Canada makes its agricultural productivity less. Probably Canada's population-capacity, on similar standards of living, is from a fourth to a third of that of the United States : and we may expect the present wide disparity in population to diminish very considerably if both countries develop peacefully for the next two or three generations.

WITH the exception of Quebec Province, the home of the French Canadians, the whole of our North American region has a common language and shares the traditions and Common Law of England. There are, in many of the great cities and in some rural areas of both countries, groups of other European peoples who still retain their own language and some of their distinctive customs, and are not yet at home in the characteristic political and social system of the country. Failure to assimilate these scattered groups of foreigners would produce a real danger to the unity and strength of the English-speaking nations ; but in both of them public opinion is probably sufficiently aware of the danger to prevent its development.

THE Far Eastern region resembles Eastern North America in that nearly the whole of its area is shared by only two independent states, although

foreign Powers control its northern and southern fringes. And these two states have also close relations in culture and tradition; though they have not the unity of language which exists in North America. In political organisation and ideals, however, the Japanese Empire appears to differ very widely from China, whose more democratic system is perhaps nearer akin to those of North America and Western Europe. The influence of Western Civilisation on the peoples of the Far East will tend to lessen the differences between them by exposing them to the same influences and bringing them face to face with similar economic and social problems. The present political disorganisation of China is probably only a temporary phase; and the establishment of unity and order will enable the Far East to become actually, as it is now potentially, comparable to Europe and North America in economic and political power.

EUROPE provides a strong contrast to the relative simplicity of the political geography of the other major regions. It includes twenty-seven nominally independent states, about as many as there are in all the other continents taken together (without counting such remnants of its medieval political fragmentation as Andorra, San Marino and Lichtenstein). These states vary very widely in population and strength. There is over the whole region a distinct unity of European civilisation, within which the several peoples show considerable variations. There is much greater diversity of language, and a far greater development of separate and conflicting "nationalisms" than in either of the other major regions; and these combine with the political fragmentation of Europe to make it appear the furthest from any effective unity. The chief formal organisation of the states for any common action is the League of Nations, which is primarily a European league; though it does not yet include the two most populous European states—Russia and Germany—and some of its principal members are extra-European. But there are many international organisations of different kinds. In fact Europe is naturally, because of its multiplicity of separate nations, the chief field of international organisations of all kinds.

THE three major regions which we have identified as the three important centres of world power are three of the four large populous regions of the earth. The fourth is India which, though less populous than Europe or the Far East, contains nearly three times as many people as Eastern North America. Hence it is necessary to state why India is not regarded as a fourth centre of world power. Firstly we note that no part of India has a really cool season, and the high temperatures and humidity of the populous areas for half the year, while very favourable to vegetable growth and so to food production and the accumulation of a dense population, are not equally favourable to the

development of human energy. Secondly the area capable of carrying a continuous sedentary population is barely one million square miles, about half that of each of the smaller of our principal regions. Thirdly India's natural resources, other than vegetable, are very much less, even in proportion to its smaller area, than those of the major regions. In coal and iron, in the possibilities of developing water power or of utilising the energy of winds or tides, India's natural endowment is relatively a poor one. And lastly, the peoples of India are even less united, by language, or culture, or religion, or any comparable bond, than those of Europe or the Far East. The chief forces making for unity among them are those of geographical contiguity and a tradition which tends to belief in the primacy of spirit over matter. There is a political unity due to an alien government, which has also imposed on India internal free trade and some degree of economic and administrative unity, and its influence undoubtedly tends towards unifying the miscellany of peoples who dwell under its rule. But under this imposed unity the political geography is extraordinarily complicated; and there is as yet no real internal unity of sentiment and culture, which is essential before India can attain separate political importance. The lack of such unity, combined with the relative poverty in human energy and in natural resources, makes India, for the present generation at least, an entirely subordinate region in respect to world power. And since no other region is comparable in any similar manner to the three major regions we have discussed we are left with three, and only three, regions capable of being sufficiently powerful to be regarded as independent centres of world-power.

REPRESENTATIVE BIOLOGICAL THEORIES OF SOCIETY: by H. E. Barnes.

II. "SOCIAL DARWINISM" (continued from the SOCIOLOGICAL REVIEW for July and October, 1925).

5. GEORG FRIEDRICH NICOLAI (1872-) AND THE CRITIQUE OF WAR FROM A BIOLOGICAL VIEWPOINT.

WHILE the World War produced a vast crop of works apologising for war, and urging the various biological, psychological, social and cultural products and advantages of human struggle through the test of arms, there were a few vigorous protests, somewhat after the fashion of the earlier argument of Novicow. The most famous of these was the work on THE BIOLOGY OF WAR, by Georg F. Nicolai, the distinguished German heart specialist and professor of physiology at the University of Berlin. Nicolai opposed the war spirit in Germany and protested against the invasion of Belgium. As a result, he was thrown into prison, in which he wrote the book in question. It was smuggled to Switzerland and there published. An English translation appeared in 1918.[66]

NICOLAI writes somewhat after the fashion of David Starr Jordan as a distinguished biologist critical of the contemporary tendency to carry over the evolutionary concepts of struggle and selection from the individual and organic to the social field. His argument is essentially the following: Man is by nature a social animal, as Aristotle intuitively recognised many centuries ago. Neither the majority of the animals nor men are naturally warlike and pugnacious. War is a product of history and the growth of culture. It was produced by the origin of property, and the purpose of human wars has ever been enslavement and the securing of temporary material gain.[67] The true and beneficial struggle for existence among men is not to be found in physical conflict against members of their own race, but rather in the effort to exploit and overcome nature through mechanical progress and scientific advancement. War is biologically counter-selective, degrading and deteriorating both to the individual and the race alike. The strains of service and of famine lower the vitality of the individual, and the best physical types are drafted for service and put forward as cannon-fodder.[68] The allegation that war promotes and brings to the fore the nobler and higher sentiments of man is similarly palpably false, as is likewise the notion that peace is productive of national decay and degeneracy. The fact is that war brings forth and stimulates almost every base and brutal aspect of human nature and culture. It

[66]New York, The Century Company. [67]Op. cit., Chap. I. [68]Ibid., Chaps. II-III.

promotes brutality, arrogance, falsehood, hatred, moral irresponsibility, incapacity for thought and rational analysis, short-sightedness and intolerance.[69] The gains of war are largely illusory in the modern age. The cost and waste of war are now so great that the victor never truly wins, his victories costing more than they bring in return. Even territorial expansion which is to-day won by force of arms is not worth the price which must be paid. There are many forms of evidence leading to the belief that the very size and expense of wars will mean the approaching end of war. In the history of animal life the approaching extinction of a type has been heralded by the development of unwieldy monstrosity; this seems now to be the fate of war.[70]

THE way out is to be found in fighting those underlying forces which to-day make for war. The economic futility of war must be courageously and persistently taught. It must be recognised that in our age national patriotism of the narrow sort is an absurd and dangerous anachronism, however much it may have contributed to social advance and integration in the past. Likewise, the myth of racial superiority and a chosen people must be laid definitely at rest by proof of its scientific inaccuracy and its fallacious foundations. We must develop an attitude of "live and let live" among the nations, promote the growth of altruism, and cultivate an increasing appreciation of the fact that human society is a great world organism. The religion of the future must be a religion of humanity, social unity and mutual toleration and service. Anthropology (better sociology) must become the theology of the new age.[71]

THERE can be no doubt of the fact that Nicolai has exposed the more apparent and ludicrous fallacies of social Darwinism, though his book suffers somewhat from his extreme *tendenz* and from the period and conditions in which it was written. He probably ignores some of the deep-seated biological urges to conflict in man, fails to recognise adequately the degree to which war promotes social solidarity and united action, and over estimates the ease with which a new intellectual programme will be able to change the present order. Again, he is rather too hard on his German colleagues, particularly those who signed the professorial manifesto. Repelled as were even thoughtful members of the Allied and neutral states at the time, the subsequent publication of the true situation about Germany and war origins has shown that they were not only nearer right than Allied propagandists, but even closer to the truth than Woodrow Wilson in his pronouncements against Germany.

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[69]Ibid., Chaps. IV., V., IX. [70]Ibid., Chaps. V., VI., XIII.

[71]Ibid, Part II. The argument for effective world co-operation as a means of ending war has been powerfully stated by Graham Wallas in his SOCIAL HERITAGE.

6. Albert Galloway Keller (1874-) and the Critical Effort to apply Darwinian Principles, Terminology and Concepts to Social Data.

Among American sociologists influenced by the Darwinian doctrine was the late William Graham Sumner of Yale University, probably the greatest teacher the science of society has yet known. Sumner's most important concept was the nature of the mores and their domination over society, an elaboration in great concrete detail of the elementary work done in this field by Bagehot. In his discussion of the mores Sumner treated their genesis as he would a fact of nature. They arose to meet the necessities imposed upon the group by nature, and their evolution and domination were produced by a struggle and selective process akin to that governing the genesis of biological types. Sumner did not, however, attempt to elaborate the analogy between organic evolution and the development of the mores. This task has been essayed and well executed by his disciple and successor at Yale, Albert Galloway Keller.

Professor Keller addresses his Societal Evolution [72] to an answer of the following question: "Can the evolutionary theory, according to Darwin and his followers, be carried over into the social domain without losing all or much of the significance it possesses as applied in the field of natural science?" [73] He holds that as far as the formula of evolution has been adopted by sociologists it has been the doctrine of evolution elaborated by Spencer, which, he thinks, was not a scientific but a philosophic concept. Hence, it is high time that the really scientific formula of Darwin should be appropriated by sociology, and that the doctrine of the "transformation of the incoherent homogeneous into the coherent heterogeneous" should be displaced by that of "variation, selection, transmission, and adaptation." [74] If it be true, as Professor Keller attempts to prove, that the Darwinian doctrine is applicable to social processes, there then naturally arises the question as to how far society can control this evolutionary process and artificially improve institutions as breeders improve the stock of animals by artificial selection.

In the first place, Professor Keller finds that societal [75] evolution is primarily mental and not physical.[76] The conception of the "mores" developed by Sumner is made the basis of his theory of societal evolution.[77] By the mores is meant the conventional ways in which society functions in carrying on its various processes—the ways of

[72]Reviewed by L. L. Bernard, American Journal of Sociology, September, 1915, pp. 264-5.
[73]Op. cit., p. 13. [74]Ibid., pp. 1-16.
[75]He prefers this term to social as more definite in meaning. Op. cit., p. 15.
[76]Op. cit., p. 21. [77]Ibid., pp. 30ff.

doing things which a particular society has approved. The mores are analogous to the germ cells and embryos in the organic world; they are the "raw material" upon which and through which societal evolution operates.

HAVING thus established the nature of societal evolution, Professor Keller next proceeds to discover whether or not the main factors in the Darwinian theory of evolution—variation, selection, transmission and adaptation, are also exemplified in the evolution of the mores.

VARIATION in the mores is shown by the fact that no two groups possess identical codes of customary procedure.[78] These variations arise from the differences between groups in their mental reactions to the stimulation of their environment.[79]

PROFESSOR KELLER finds three types of societal selection—automatic, rational, and counter selection. Automatic selection involves no conscious adaptation of means to a preconceived end, but is effected through the general processes of war,[80] subjection and class-conflict,[81] and competition.[82] He has some very harsh, but in the main possibly justifiable, words for those who would put an end to this natural process of the elimination of the socially unfit. "Sentimentalists, warm of heart, but soft of head, petition complaisant executives to let loose upon society the wolves that have been trapped and should have been eliminated once for all; to set the scotched snakes free again. The pseudo-heroic and pathetic aspects of the life of the black-hearted criminal are rehearsed until he seems to be a martyr, and the just judge who condemns him a persecutor and a brute. All of which is done by volatile spirits under the illusion that they are thereby conserving the delicacy of the 'ethical sense' or what not, instead of proving recreant to plain duties as members and supporters of civilised society."[83] This sounds much like some of the passages from Spencer's MAN VERSUS THE STATE, or Sumner's WHAT SOCIAL CLASSES OWE TO EACH OTHER.

RATIONAL selection, the social analogue of the breeder's art, takes place in society, but in different degrees among the various classes of mores. To a certain extent the leaders in thought can determine the direction which changes in the mores will occur, but even such persons are limited by the domination of public opinion.[84] The degree to which the mores are amenable to deliberate change varies with the particular type of the mores. Those connected with matters of superstition and sentiment, like religion and sex, are most difficult to change.[85] Those not thus entangled open a wider field for improvement.

[78]Ibid., pp. 44ff. [79]Ibid., pp. 51ff. [80]Ibid., pp. 62ff. [81]Ibid., pp. 73ff.
[82]Ibid., pp. 78ff. [83]Ibid., p. 70. [84]Ibid., pp. 99ff, 115ff. [85]Ibid., pp. 128ff.

In general, rational selection in the mores is accomplished in an indirect manner. Mores connected with the processes of the self-maintenance of society are the least wrapped up in sentiment and in them beneficial changes are more obvious and demonstrable. Hence it is in the economic field that rational selection in society finds its widest range of application.[86] But every important change in the economic organisation is necessarily followed by a consequent, though not necessarily equal, transformation in the other mores. Thus, though it is impossible directly to modify all social institutions, the changes can be achieved in this roundabout manner.[87] Therefore, Professor Keller's answer to the question as to whether society can control its own evolution issues in a new version of economic determinism, which seems on the whole valid. He guards, however, carefully against allowing his arguments to be interpreted as favouring the socialist propaganda. One may accept the dogma of the fundamental importance of economic institutions without giving assent to the Marxian deductions from this principle.[88]

By counter-selection Professor Keller means that type of societal selection which renders the individual biologically less fit.[89] He summarises the modern social factors which are described by Schallmayer as resulting in the survival of the biologically unfit. These are mainly war, modern industry, celibacy, later marriage and the sterility of the better classes in society.[90] But counter-selection, while disastrous biologically, may have more than equal social and cultural compensations. Societal selection operates primarily between groups rather than among individuals, and hence in so far as it secures social advantages which are greater than the biological loss, it is to be commended.[91] Professor Keller regards the eugenic program advanced by Galton and Pearson as impracticable since it involves interference with a type of mores which are most resistant to rational control.[92]

Transmission in societal terminology is not possible in the sense of biological heredity for the mores are "acquired characters."[93] The transmission of the mores takes place through the medium of tradition, which operates automatically through imitation, and artificially in the process of education.[94]

Adaptation in the mores is the outcome of the operation of the processes of variation, selection, and transmission. Every social custom or institution is the result of an adaptation of the life of a people to the environmental conditions which confront them. Even though the particular adjustment may later be an anachronism, it should not be

[86]Ibid., pp. 140ff. [87]Ibid., pp. 153ff. [88]Ibid., pp. 161ff. [89]Ibid., p. 170.
[90]Ibid., pp. 171ff. [91]Ibid., pp. 169, 181ff. [92]Ibid., pp. 193ff.
[93]Ibid., pp. 208ff. [94]Ibid., pp. 212ff.

condemned absolutely, for it must have once been useful or it would not have existed.[95] The different forms of the state and government are but one aspect of this social adaptation to the necessary conditions of social existence.[96]

PROFESSOR KELLER thus demonstrates the applicability of the Darwinian formula to the processes of social evolution in a broad general way. That he has performed the task in such a way as to render any similar exploitation of this field likely to be very unfruitful may be conceded. Still, the question arises as to whether or not he has simply outlined a novel variation of the old organic analogy. It is a debatable question as to whether there is any nearer approach to an explanation of the fundamental social processes in a demonstration of the resemblances between the processes of organic and social evolution than in the previous illustration of the similarity between the life processes of the organism and society.[97]

[95]Ibid., pp. 250ff. [96]Ibid., pp. 295ff.

[97]For a critical estimate of the work see the review by R. G. Smith in the POLITICAL SCIENCE QUARTERLY, December, 1917, pp. 638-71.

ON THF DEVELOPMENT OF THE REGIONAL SURVEY IN SOVIET RUSSIA :* by Prof. P. J. Schmidt (Leningrad).

THE study of Russia, of this vast country with numerous regions differing widely as to climate and population, has been in every respect the main task of the Russian Academy of Sciences from its inception. During the past two centuries the Academy of Sciences played the first and chief part in the investigations of the natural resources of the country and in the history and the study of the present conditions of its population.

THE Academy's work falls into three well-defined historical phases. During the *first* period the Academy was the central and single organisation engaged in research work. Very important expeditions were organised, foremost among which were the two expeditions to Siberia, the first of which was started as early as 1725 under the leadership of Captain Bering, whilst the second worked in Kamshatka in 1733-43. The first knowledge about the eastern shores of Asia and the nature of the Eastern seas is due to the ten years' work of this expedition, which had a heavy toll of lives for its achievement.

ANOTHER important scientific enterprise was the Expedition to the south of Russia and to the Russian southern seas in 1767. Such names as Pallas, Gmelin, Guldenstedt, Falk and Lepekhin are connected with it ; the expedition took many years and gave the first scientific knowledge of the Black Sea, the Caspian Sea and the Aral Sea, as well as of the Steppes and the deserts of these parts.

MANY more expeditions were organised by the Academy in the 18th century and enriched our knowledge of the country and its nature. The results were published in foreign languages and made available to the scientists of Europe.

WITH the end of the 18th century began the *second* period in the evolution of the study of Russian country and nature. New scientific institutions were started to supplement the work of the Academy, chiefly different societies for scientific research attached to the universities. Every newly opened university became in fact a scientific centre for the investigation of nature in its region. The study of the country thus came to be distributed between the new scientific organisations, although the Academy of Science still continued to play the leading part. It was the Academy which organised expeditions to the remotest regions of Russia and to the neighbouring countries. The collections brought back by the expeditions were

*Address read at the meeting of the Society for Cultural Relations between the peoples of the British Commonwealth and the Union of Socialist Soviet Republics for the celebration of the Bicentenary of the Russian Academy of Sciences. September, 1925, in London.

deposited and studied in the museums of the Academy and the results were published in transactions of the Academy. A great deal of scientific material has been accumulated, and thanks to the joint efforts of the scientific societies and the Academy we have at present a considerable knowledge of the natural resources of our country, its climate, flora, fauna, geological structure, its inhabitants, their history and present condition.

THE knowledge gained so far is, however, insufficient to form an adequate basis for the full development of the national economy of our country. Each region has its own character, it possesses its own peculiar conditions and peculiar population, and must therefore be studied separately and in detail.

AT present we are witnessing the opening of a new era which forms the *third* period in the study of our country, a study which continues to be led by the Academy of Sciences. The disturbances which Russia suffered in the last years had for outcome some beneficial results, and one of these is certainly the wide extension of regional survey. The small towns of Russia were never deficient in amateurs interested in natural science, archæology, history, ethnography. These people steadily accumulated an extensive knowledge of the different regions they inhabited. Small societies, local museums, archives, have existed in many towns for some considerable time. But they could not before the Revolution unite their forces for the purpose of collaboration, as this was not allowed by the authorities of the old regime. Now, on the contrary, the separate organisations are freely able to get into touch with one another.

THE first call for organisation of regional survey came from the Academy in 1921 when an All-Russian Congress of the Societies for Regional Survey was brought together in Moscow. In January, 1922, a Central Bureau of Regional Survey was organised at the Academy of Sciences, Leningrad, with a branch in Moscow. This Bureau collected information about already existing institutions for regional survey, brought them into connection with each other and supplied them with every kind of help. The Bureau also started a periodical, "Regional Survey," and published monographs and text books on this subject.

IN March, 1923, some 231 societies, their branches and associated clubs were on the list, with 285 museums, 21 biological stations and 16 natural reserves or parks. But a good many more societies have been started since, and up to last June the number of institutions dealing with regional survey was more than 1,000. A map of Russia, on which these societies are marked, represents a dense conglomeration of points.

THE aim of these societies is the study of each one's special region, improvement in the use of its natural resources, and of the general conditions of life. The interest in such work grows daily and every class of the population takes part in it. Many of the regional survey organisations have developed out of the former scientific societies—the last have enlarged their programmes and increased their activities.

BUT a great many new societies of regional survey have been created in small towns and villages. For instance, in Ust-Syssolsk, a very small town, the capital of Zyrian region in the far north-east of Russia, has organised a society for Regional Survey that has started to study the " Komi " or Zyrian people, its folklore, archæology and economics. This society has now a museum, publishes a special journal, and organises scientific excursions. In Alexandrovsk on the Murman coast a local club has started the work of studying the nature of this region beyond the Polar Circle. A small town, Bogorodsk, in the Moscow Province, has a meteorological station as well as a biological one in order to study the regional flora and make experiments on the acclimatisation of plants and on the acclimatisation of the silk-worm. In Murom, a little town in the Vladimir Province, a Regional Survey society was started in 1917 ; it works in connection with the biological station on the river Oka, and studies questions on the hydrology, hydrobiology, meteorology and archæology. Its museum has already twenty rooms, and numbers 8,445 objects ; the society has a library of 2,600 volumes. In a small town, Sevsk, in the Briansk district, a newly organised society has started a natural history museum and has collected together the county archives of 200 years. This museum is very much appreciated by the population ; during five months some 2,000 visitors have been registered, among them a good many peasants from neighbouring villages who up till now never had heard the word museum at all.

MUSEUMS represent the simplest and easiest way for the popularisation of scientific knowledge, and therefore the foundation of museums and their development is the first task of the societies for Regional Survey. But members of the societies do not restrict their work to museum work. They do their best to do some scientific research as well. They organise meteorological and biological stations, they arrange excursions and scientific expeditions on a small scale in order to study the local conditions ; ethnographical, statistical and economic research is also very much done by them. Bibliography is collected, also photographs and drawings, maps are drawn, and so on. Many of the regional survey societies pay especial attention to the history and archæology of the country ; they collect antiquities and study the history of the region. Most of the societies start the publication of the results in their own separate papers, and such periodicals are often

of a great value and interest. In some small places, where the printing conditions are bad, the results of research work are sometimes issued in *manuscript*, as was done before the invention of Guttenberg. Such a journal is published, for instance, by the society for Regional Survey in Roshki, a village in Viatka province, in north-east of Russia. The Regional Survey society in a small town, Usman, of the Voronej province, has published a map of this district on the scale of 4 kilometres to an inch with a fairly good description of the Usman district.

It should be mentioned also that many societies are in close touch with local schools. Not only do the teachers take part in the work, but children are also organised in sections and are very pleased to make collections for the museum and to give some help in the exhibitions. Some few regional survey organisations are directly connected with local government organisations. For instance, in Tamboff the local society works hand in hand with the State Planning Commission of the district, and a special Bureau of the Regional Survey has been established.

The small local societies are now considering the possibility of forming unions, and intend to plan common programmes, uniform methods, and find means and ways to secure the necessary funds. For this purpose many local conferences have been held. In June, 1924, a conference in Voronej organised a "Union of Societies and organisations for the study of the Black-Earth Region." Similar unions have been organised also in Moscow, Tamboff, Kursk and several other towns. Joint efforts will certainly give better results in the complicated and difficult problems of regional survey.

I must mention that all the work done is solely of an amateur character, it brings no material profit to the workers. The museum staffs are not always paid, and if so, very little. Funds for museums, archives, biological and meteorological stations are small and absolutely inadequate. They consist of a small governmental help, of local contributions, and membership and entrance fees. Notwithstanding such unfavourable conditions the study of their native country attracts many people, who give their work and their time free of charge, and do it with enthusiasm.

This shows that the Russian people is full of energy, sound nationalism, loving their country and trying to study it thoroughly and to stimulate its progress. This makes us hope that the scientific study of Russia, once started by the Academy of Sciences and still organised by it, will not fail also in the future. The modern form of regional survey reaches now the remotest corners of the immense territory of the Union of Socialist Soviet Republics, which being nearly one-eleventh of the world's land area is of greatest interest to the whole of mankind.

P. J. Schmidt.

CHARLES DARWIN AND THE THEORY OF EVOLUTION: A SOCIOLOGICAL STUDY.

CHARLES DARWIN was born at Shrewsbury in 1809. His father was a well-to-do medical practitioner of some distinction, Dr. Robert W. Darwin, F.R.S., and his grandfather was Dr. Erasmus Darwin, author of several notable works. Charles Darwin's mother was the daughter of Josiah Wedgwood, the famous potter.

WE are informed that in his early youth Darwin had a passion for collecting; but since the objects of his quest were, it is said, franks, seals, and similar uninteresting trifles, this form of activity could have exercised little influence on his intelligence and his future. Circumstances, however, tended to impart a significant direction to this trend, owing to the locality in which he resided. "The pebbles, which were obtained from a neighbouring gravel-pit, being derived from the glacial drift," writes Prof. J. W. Judd (in his remarkable essay on "Darwin and Geology," in DARWIN AND MODERN SCIENCE, ed. by A. C. Seward, Cambridge, 1909), "exhibit very striking differences in colour and form. It was probably this circumstance which awakened in the child his love of observation and speculation" (pp. 339-40). If to this be added that "no better field for geological studies could possibly be found than Darwin's native county" (p. 343), we shall comprehend the spiritual sequence whereby the collector of seals became the collector of geological specimens, and ultimately an eminent scientific collector.

CHARLES DARWIN derived little pleasure from the boarding school where he vegetated for several years, and the same must be said of his sojourn at the universities of Edinburgh and Cambridge. The passion for collecting, however, remained with him, and thus it was that he came to be recommended for the position of naturalist on H.M.S. *Beagle*, which was to proceed on a voyage of exploration round the world. He sailed in December, 1831, and only returned in October, 1836, being virtually five years absent. Enthusiastically devoted to his task, the love for collecting found full vent. It was not, however, an uninformed collector whom we have now before us. He took with him a well assorted library—which also included the first edition of the first volume of Charles Lyell's PRINCIPLES OF GEOLOGY, and he supplemented his love for collecting with that of comparing, classifying, and keeping full and exact records. We are not surprised to learn that the voyage made a profound impression on him. "The voyage of the *Beagle*," he writes, "has been by far the most important event in my life, and has determined my whole career" (LIFE AND LETTERS, vol. I., p. 61). We may well believe this. It was his memorable experiences, combined with his reading, which turned

the whilom theologian into a potential evolutionist. Almost no sooner had he returned, than (in 1837) he opened his first notebook relating to the origin of species. Five years later he summarised his results in some forty pages of manuscript, and two years subsequently (in 1844, the year of the publication of Chambers' VESTIGES) he expanded this statement into some two hundred pages, which gave a fair idea of the ripe work of 1859.

AT this point let us turn to the evolution of the evolution hypothesis, in order to be in a position of estimating Darwin's originality. On reflection we shall not need to trace the hypothesis far back, for two outstanding facts control it: comparative anatomy and palæontology. Before these sciences had developed, the problem was necessarily shrouded in a thick mist; but so soon as wide and minute morphological comparisons of living beings were made, and fossils were attentively examined and compared with one another, with the strata wherein they were found, and with their living relatives, the theory of organic evolution sprang into being. In his EVOLUTION, OLD AND NEW (London, 1882), Samuel Butler presents us with a formidable array of passages which conclusively prove that the naturalist, Buffon, who wrote about the middle of the eighteenth century, was saturated with the theory of the mutability of organisms and their evolution. No long, systematised statement is to be found in Buffon's voluminous works; but when one remembers that, in view of the hostility of the Church to all innovations, it required audacity even tentatively to approach the matter, we shall appreciate Buffon's contribution at its true value. Henry F. Osborn's statement regarding Buffon is explicit: "The struggle for existence, the elimination of the least-perfected species, the contest between the fecundity of certain species and their constant destruction, are all clearly expressed in various passages." (FROM THE GREEKS TO DARWIN, New York, 1894, p. 136.)

QUATREFAGES (CHARLES DARWIN ET SES PRÉCURSEURS FRANÇAIS, Paris, 1870, p. 40), states that at a certain stage of his life "Buffon admit non-seulement la variation, mais même la mutation et la dérivation des espèces animales." In vol. 14 of his HISTOIRE NATURELLE (Paris, 1766) Buffon certainly argues at length that families of animals—as the dog, the wolf, the fox, the jackal, and the isatis—have a common origin (p. 350), and that the two hundred species of which he gives an account resulted from the modification of a small number (p. 358. In the same volume he also contends for a natural origin of the races of man. In one place, according to P. Flourens (BUFFON, Paris, 1844, p. 94), Buffon refers to the hyphothesis "de supposer que d'un seul être elle [la nature] a su tirer, avec le temps, tous les êtres organisés."

ERASMUS DARWIN, Charles Darwin's grandfather, was familiar with Buffon, and was probably inspired by him and the school of thought

he represented. In his ZOONOMIA (London, 2 vols., 1794-6), purporting to provide his age with a philosophical treatment of medical questions, Erasmus Darwin introduced, incidentally as it were, the problem of the transmutation of species. Indeed, about ten pages out of over thirteen hundred are allocated to this theme. Within these narrow limits we find a remarkably lucid exposition of the truths of organic evolution. The question of the inheritance of acquired characters, normal and pathological; that entailed in the domestication of animals and involved in palæontology; that involved in the crossing of species and in climatic changes; and others are touched on with a judiciousness arising no doubt out of familiarity with his theme. He adduces three sources or causes of transmutation (1) sexual selection, which he amply illustrates in a manner strongly reminding one of his grandson's treatment of the subject; (2) selection through hunger, which recalls Malthus; and (3) selection through desire for security, where he treats of protective coloration and armour, the acquisition of wings, length of fins, &c. In his own expressive language, the three master causes of transmutation are "lust, hunger, and security." In concluding his survey, he says: "Would it be too bold to imagine that all warm-blooded animals have arisen from one living filament, which THE GREAT FIRST CAUSE endued with animality, with the power of acquiring new parts, attended with new propensities, directed by irritations, sensations, volitions, and associations; and thus possessing the faculty of continuing to improve by its own inherent activity, and of delivering down those improvements by generation to its posterity, world without end?" (ZOONOMIA, vol. 1, p. 505.) And, summoning courage: "As the earth and ocean were probably peopled with vegetable productions long before the existence of animals; and many families of these animals long before other families of them, shall we conjecture that one and the same kind of living filaments is and has been the cause of all organic life?" (p. 507). It is interesting that his grandson closely followed his reasoning: "There is grandeur in this view of life, with its several powers, having been originally breathed by the Creator into a few forms or into one" (ORIGIN OF SPECIES, last paragraph.) Later, Erasmus Darwin sums up in this manner the whole question: "From the beginning of the existence of this terraqueous globe, the animals, which inhabit it, have constantly improved, and are still in a state of progressive improvement" (pp. 528-9).[1]

CONDORCET, in his ESQUISSE D'UN TABLEAU HISTORIQUE DES PROGRÈS DE L'ESPRIT HUMAIN (Paris, 1822, pp. 299-300), written in 1794, has a passage suggesting the perfecting of the human race through the inheritance of acquired characters.

[1] For a detailed investigation regarding Erasmus Darwin's evolutionary teaching as expressed in his various works, see Ernst Krause, ERASMUS DARWIN, London, 1879. Erasmus Darwin cites (p. 507) Linnaeus in support of the theory of evolution.

ACCORDING to Aristotle's ETHICS (bk. 2, ch. 1) "it was not from frequently seeing or frequently hearing that we got the senses, but, on the contrary, we had them first, and then used them, and did not get them by having used them."

THE last edition of the ZOONOMIA appeared in 1801. In 1809, the year of Darwin's birth, the first edition of Lamarck's PHILOSOPHIE ZOOLOGIQUE saw the light. Here the central interest is the same as that in the ORIGIN OF SPECIES. Perceiving the unity prevailing in organic nature; how nearly the species of plants and animals are related; how simplified organic beings become as we descend from the highest to the lowest; how the same lesson is enforced by palæontology, Lamarck deemed that he had discovered a natural explanation for this gigantic mass of articulated facts. Indeed, he maintains as an indisputable proposition that function alters structure; that environment induces alteration in function; and that such alteration, continuing for ages (the inheritance of acquired characters is tacitly assumed), terminates in radically transforming organic beings. Here, according to Lamarck, we have a known and efficient cause for the multiplicity of organic forms found in nature. The simplicity of the theory is almost startling, and if we could but grant the inheritance of acquired characters (which Darwin repeatedly assumes) the theory would fairly explain many of the evolutionary facts.[2]

THE debate in the French Academy, between Geoffroy St.-Hilaire and Cuvier in 1830, excited much interest throughout cultivated Europe.[3] At first sight, the matter does not appear to concern us, since no reference appears to be made in the course of the debate to the transmutation of species; but, on reflection, we see that it is the same problem more subtly approached. Geoffroy St.-Hilaire's contention is that the fundamental structure of all animals is one—*e.g.*, wing, limb, fin; that there is one animal, so to speak; that the position of the bodily parts remains, although these parts may be indefinitely modified through adaptation—the parts of the limbs, for example. All animals, that is, show the same plan. For Geoffroy, we must remember, this is not so much a theory as a working hypothesis, an instrument of research and explanation—exactly in the sense of the Darwinian hypothesis. That is, the whole organic world is regarded as closely related, and it is, according to him, the business of the naturalist to trace the exact relations between species on the basis of this close relationship.

[2] The first volume of Lamarck's HISTOIRE NATURELLE DES ANIMAUX SANS VERTÈBRES (Paris, 1815) is mainly occupied with a re-statement of his theory of evolution. On pp. 181-2 he summarises his four laws of development.

[3] See Etienne Geoffroy Saint-Hilaire, PRINCIPES DE PHILOSOPHIE ZOOLOGIQUE (discutés en Mars, 1830), where Geoffroy's and Cuvier's speeches are given and discussed. See also GOETHE'S SÆMMTLICHE WERKE, Fünfunddreissigster Band, Stuttgart, 1868, where there is a review of Geoffroy's volume just mentioned.

THERE is here, it is true, no overt reference to evolution; but the discerning will note that the evolution theory presupposes such a view of organic life, and is infinitely strengthened by the fact that there is a unity of type running through the leading divisions of the flora and fauna of the world. However, the doctrine of evolution was not only implicit in Geoffroy's theory, but was explicitly employed by him to explain the differences between species. Thus, according to a passage quoted by his son from OBSERVATIONS SUR L'AILE DE L'AUTRUCHE, Geoffroy states: "Ainsi se retrouvent sous la peau des flans les vestiges de l'aile du casoar; ainsi se voit dans l'homme, à l'angle interne de l'oeil, un boursouflement de la peau qu'on reconnaît pour le rudiment de la membrane nyctitante dont beaucoup de quadrupèdes et d'oiseaux sont pourvus." (Isidore Geoffroy Saint-Hilaire, ESSAIS DE ZOOLOGIE GÉNÉRALE, Paris, 1841, p. 89.)

INDEED, after Cuvier's death Geoffroy Saint-Hilaire found an opportunity of frankly pleading for an evolutionary interpretation of past and present living forms and for a search of causes in the place of piling up unrelated and unintelligible facts. The occasion was a report in the Paris Academy of Sciences on the recently found *Sivatherium* which, he contended, was ancestral to the giraffe of the present day. In one place he states (COMPTES RENDUS DES SÉANCES DE L'ACADÉMIE DES SCIENCES, for January, 1837, p. 59): "Ce qui m'a paru toujours évident instinctivement, je veux bien et je dois en convenir, c'est que les espèces antédéluviennes sont les parents directs, ou collateraux, les ancêtres des animaux du monde actuel." However, with regard to assigning definite causes, he indulged in rather wild speculations, and thereby probably alienated those who were anxious to remain close to fact. As E. R. A. Serres (PRÉCIS D'ANATOMIE TRANSCENDANTE, Paris, 1842, p. 58) writes: "A la fixité des formes organiques et à l'invariabilité des espèces zoologiques, il substitua donc la variabilité."

DISAPPOINTING as these scattered and halting pronouncements are, we must remember that the keen Damocles sword of the Church was felt to be trembling above every one who dared to deflect the prevailing current of thought. Charles Darwin was probably not a little influenced by the same social cause both in regard to the postponement of the publication of his work and its style. In fact, it will be well for us to assume that the transmutation hypothesis was widely canvassed in Darwin's time; but this generally in private, for fear of ecclesiastical censure and persecution. Prof. Judd informs us that "Lyell, as early as 1827, was prepared to accept the doctrine of the transmutation of species.[4] . . . To Sir John Herschell, in 1836, he

[4] "After all, what changes species may really undergo! How impossible will it be to distinguish and lay down a line, beyond which some of the so-called extinct species have never passed into recent ones." (Mrs. Lyell, LIFE, LETTERS AND JOURNALS OF SIR CHARLES LYELL, BART., London, vol. 1, 1881, p. 168.)

wrote: "In regard to the origination of new species, I am very glad to find that you think it probable that it may be carried on through the intervention of intermediate causes" (p. 350).[5] And in respect of Sir John Herschell, Charles Babbage (THE NINTH BRIDGEWATER TREATISE, London, 1837, pp. 203-4) quotes from him a letter in which the following passage occurs: "The origin of fresh species, could it ever come under our cognisance, would be found to be a natural in contradistinction to a miraculous process."

THE correspondence between Lyell and Sir John Herschell has a profound and direct bearing on our theme. Darwin was stirred to the depths by Sir John Herschell's INTRODUCTION TO THE STUDY OF NATURAL PHILOSOPHY, 1830 (new edition). In that classic the following passage occurs, evidencing the far-reaching and fateful suggestiveness of the labours of the geologists: "These [fossil] remains are occasionally brought to light; and their examination has afforded indubitable evidence of the former existence of a state of animated nature widely differing from what now obtains on the globe, and of a period anterior to that in which it has been the habitation of man, or rather, indeed, of a series of periods, of unknown duration, in which both land and sea teemed with forms of animal and vegetable life, which have successively disappeared and given place to others, and these again to *new races approximating gradually more and more to those which now inhabit them*, and at length comprehending species which have their counterparts existing" (p. 283). (Italics ours.) Here is the compelling fact that rendered the advent of the evolution theory inevitable.

LYELL had, of course, much greater influence on Darwin than John Herschell. "Charles Darwin," Judd tells us, "never tired—either in his published writings, his private correspondence or his most intimate conversations—of ascribing the awakening of his enthusiasm and the direction of his energies towards the elucidation of the problem of development to the PRINCIPLES OF GEOLOGY and the personal influence of its author" (p. 338). Lyell delicately and timidly touched on the development hypothesis in his epoch-making work. "He gives vivid pictures of the struggle for existence, ever going on between various species, and of the causes which lead to their extinction—*not by overwhelming catastrophies, but by the silent and almost unobserved action of natural causes*" (p. 350).[6] To the weighty words which we have ventured to italicise, we shall return in the sequel, for their

[5] Ibid., pp. 467-9, where the idea is constructively developed.

[6] Lyell, in his THE GEOLOGICAL EVIDENCES OF THE ANTIQUITY OF MAN (London, 1863, p. 393) remarks that in the first edition of his PRINCIPLES OF GEOLOGY he had already agreed with Lamarck "in believing that the system of changes now in progress in the organic world would afford, when fully understood, a complete key to the interpretation of all the vicissitudes of the living creation in past ages."

bearing on the form which Darwin's theory assumed is crucial. In fact, we should remember that Lyell devoted a chapter to the transmutation theory in the first volume of his PRINCIPLES (1830) and about a dozen chapters in his second volume (1832). Nothing could speak more eloquently for Lyell's interest in the subject and his determination to bring and keep the issue before the public. The full title of his work was PRINCIPLES OF GEOLOGY, being an Attempt to Explain the Former Changes of the Earth's Surface by reference to Causes now in Operation.

Two of the scholars therefore whom Darwin greatly admired were potential evolutionists, and publicly touched on the problem relating thereto.

A THIRD scholar, who disclaimed all originality in the matter, furnished Darwin with his chief weapon—the primary cause of the mutations among plants and animals in nature. Within about a year of opening his famous notebook, Darwin chanced to read Malthus' work on POPULATION, and found therein what he needed in the shape of a dynamic principle of the evolutionary process. " Malthus stated with perfect clearness ' the constant tendency in all animate life to increase beyond the nourishment prepared for it ' [ESSAY ON THE PRINCIPLE OF POPULATION, London, vol. 1, 1817, pp. 2-3], and the consequent struggle for existence." (Frank Cramer, THE METHOD OF DARWIN, Chicago, 1895, p. 220.) Malthus expressed his main conclusion in a graphic form : " The germs of existence contained in this earth, if they could freely develop themselves, would fill millions of worlds in the course of a few thousand years " (ESSAY, &c., pp. 3-4.) " It at once struck me," Darwin said, on reading Malthus, " that under these circumstances favourable variations would tend to be preserved, and unfavourable ones to be destroyed. The result of this would be the formation of new species. Here, then, I had at last got a theory by which to work." (LIFE AND LETTERS, vol. 1, p. 83.) The same theory had been expressed, less explicitly, as we learnt, by other writers, especially in a peculiarly comprehensive sense by Erasmus Darwin, but evidently the passages lacked forcefulness for Charles Darwin.

AT an early date also, in 1831, a Mr. Patrick Matthew published a work on NAVAL TIMBER AND ARBORICULTURE, a sufficiently unsuggestive title for the searcher of records relating to the development hypothesis. This work, in an Appendix, contained, according to Darwin, a clear enunciation of the theory of natural selection. Here are some passages from this interesting Appendix :

" GEOLOGISTS discover . . . fossil species through the deep disposition of each great epoch, but they also discover an almost complete difference to exist between the species or stamp of life, of one epoch from that of every

other. We are therefore led to admit, either of a repeated miraculous creation, or of a power of change, under a change of circumstances, to belong to living organised matter, or rather to the congeries of inferior life, which appears to form superior. The derangements and changes in organised existence, introduced by a change of circumstance from the interference of man, afford us proof of the plastic quality of superior life, and the likelihood that circumstances have been very different in the different epochs, though steady in each, tend strongly to heighten the probability of the latter theory. . . . Is the inference then unphilosophic, that living things which are proved to have a circumstance-suiting power—a very slight change of circumstance by culture introducing a corresponding change of character—may have gradually accommodated themselves to the variations of the elements containing them, and without new creation, have presented the diverging changeable phenomena of past and present organised existence ? " (pp. 381-2).

" THE self-regulating adaptive disposition of organised life may, in part, be traced to the extreme fecundity of Nature, who, as before stated, has, in all the varieties of her offspring, a prolific power much beyond (in many cases a thousandfold) what is necessary to fill up the vacancies caused by senile decay. As the field of existence is limited and pre-occupied, it is only the hardier, more robust, better-suited-to-circumstance individuals, who are able to struggle forward to maturity, these inhabiting only the situations to which they have superior adaptation and greater power of occupancy than any other kind ; the weaker and less circumstance-suited being prematurely destroyed. This principle is in constant action ; it regulates the colour, the figure, the capacities, and instincts ; those individuals in each species whose colouring and covering are best suited to concealment or protection from enemies, or defence from inclemencies or vicissitudes of climate, whose figure is best accommodated to health, strength, defence and support ; whose capacities and instincts can best regulate the physical energies to self-advantage according to circumstances—in such immense waste of primary and youthful life those only come to maturity from the strict ordeal by which Nature tests their adaptation to her standard of perfection and fitness to continue their kind by reproduction " (pp. 384-5).

" THIS circumstance-adaptive law is operating upon slight but continued natural disposition to sport in the progeny (seedling variety)" (p. 385).

DARWIN was not cognisant of this work or its contents until after he had elaborated his theory. For us, however, who are interested in the problem of originality and genius, and who seek to measure the historical rate of advance of the transmutation theory, the passages are rich in meaning. They are straws manifesting the drift of scientific opinion.[1]

IN 1844, the year when Darwin wrote out the second draft of his theory, appeared anonymously Robert Chambers' VESTIGES OF THE NATURAL HISTORY OF CREATION. The work caused a sensation, to judge by the fact that within less than ten years as many editions of it appeared. For us its primary interest dwells in the fact that apparently the world was quite prepared to entertain, or at least discuss,

[1] Attention should be also called to Boucher de Perthes' ponderous work in five volumes, DE LA CRÉATION, which appeared between 1838 and 1841, and which was written from a purely naturalistic standpoint.

views regarding the natural ascent of living beings from lower forms. Chambers' contribution was crude and intensely theistic, but the crudity was to a considerable extent reduced in subsequent editions. (See, for example, the tenth edition of the VESTIGES and also Chambers' companion work EXPLANATION : A SEQUEL TO VESTIGES, &c.) Perhaps the following passage may be regarded as fairly reflecting his positive conception of natural creation : " The idea, then, which I form of the progress of organic life upon the globe . . . is, that the simplest and most primitive type, under a law [8] to which that of like-production is subordinate, gave birth to the type next above it, that this again produced the next higher, and so on to the very highest, the stages of advance being in all cases very small—namely, from one species only to another ; so that the phenomenon has always been of a simple and modest character." Here is a good specimen of the saltatory theory of evolution.[9]

ON the whole, apart from the inevitable elaboration of the lessons taught by palæontology and apt references to embryology, Chambers' statement forms a dubious theoretical advance on Erasmus Darwin. IN the same year S. S. Haldeman published his " Observations on Species and their Distribution " (BOSTON JOURNAL OF NATURAL HISTORY, Jan., 1844), where he discusses in some detail and appreciatively the adequacy of the evolution theory to explain the palæontological record.

RICHARD OWEN can scarcely be styled a pre-Darwinian evolutionist. And yet, as the following passage shows, he sometimes felt in an evolutionary mood : " To what natural laws or secondary causes the orderly succession and progression of such organic phenomena may have been committed we as yet are ignorant. But if, without derogation of the Divine power, we may conceive the existence of such ministers, and personify them by the term ' Nature,' we learn from the past history of our globe that she has advanced with slow and stately steps, guided by the archetypal light, amidst the wreck of worlds, from the first embodiment of the Vertebrate idea under its old Ichthyic vestment, until it became arrayed in the glorious garb of the Human form." (ON THE NATURE OF LIMBS, London, 1849, p. 86.)

[8] According to Treviranus (BIOLOGIE, vol. 3, 1805, pp. 224-6) species have cycles like individuals ; only they do not die, but become transformed into other species. Buffon (LES ÉPOQUES DE LA NATURE, vol. 1, 1778, pp. 264-5) believed in the existence of living organic molecules. These, being indestructible, if one species were destroyed, a new one would necessarily form in its place.

[9] Charles Lyell apparently applied the saltatory theory to man. He writes : " If, in conformity with the theory of progression, we believe mankind to have risen slowly from a rude and humble starting point, such leaps may have successively introduced not only higher and higher forms and grades of intellect, but at a much remoter period may have cleared at one bound the space which separated the highest stage of the unprogressive intelligence of the inferior animals from the first and lowest form of improvable reason manifested by man." (THE GEOLOGICAL EVIDENCES OF THE ANTIQUITY OF MAN, London, 1863, pp. 504-5.)

ALREADY in 1841 Louis Agassiz entertained very decided opinions on the progress of organisation observable among fossils according to the age of the strata where they were found. (*Ueber die Aufeinanderfolge und Entwickelung der organisirten Wesen auf der Oberfläche der Erde in den verschiedenen Zeitaltern*, Halle, 1843.) This opinion was elaborated in his COMPARATIVE PHYSIOLOGY, where also the creationist hypothesis was strongly espoused by him. The final conclusion he reached was "that *there is a manifest progress in the succession of beings on the surface of the earth. This progress consists in an increasing similarity to the living fauna, and among the vertebrata especially, in their increasing resemblance to man*" [10] (p. 416). (Italics are ours.) Here are unshakable foundations for a theory of evolution laid down by an eminent and prominent scholar and teacher.

IN 1852, Ch. Naudin, a French naturalist, clearly enunciated the doctrine of descent by gradual organismal modifications. After describing in some detail the process of the formation of new varieties by artificial selection on the part of man, he insists that such has been also nature's method in the successive production of all the plant and animal species which people the globe. "Telle est, dans nos idées, la marche de la nature; comme nous, elle a voulu former des races pour les approprier à ses besoins; et, avec un nombre relativement petit de types primordiaux, elle a fait naître successivement, et à des époques diverses, toutes les espèces végétales et animales qui peuplent le globe." ("Nouvelles recherches sur l'hybridité dans les végétaux," in NOUVELLES ARCHIVES DU MUSÉUM D'HISTOIRE NATURELLE, Paris, vol. 1, 1865, p. 171.)

THE advancing tide brought into the field one who was later destined to be the most notable champion of general evolutionism, namely Herbert Spencer. In 1852, the year when Naudin's statement appeared, he published an article on "The Development Hypothesis," the tenour of which implies that the question was much alive then. The following passage from that article is richly worth quoting:—

"THOSE who cavalierly reject the Theory of Evolution as not being adequately supported by facts, seem to forget that their own theory is supported by no facts at all. Like the majority of men who are born to a given belief, they demand the most rigorous proof of any adverse belief, but assume that their own needs none. Here we find, scattered over the globe, vegetable and

[10] This view may be said to have been all but universally held by the generation of thinkers preceding the publication of Darwin's ORIGIN. To the authorities we have noted on this subject may be added, according to Lyell (GEOLOGICAL EVIDENCES, &c.), Bronn and Brogniart. See also Boucher de Perthes, DE LA CREATION, 1838, p. 342; Gideon A. Mantell, THE MEDALS OF CREATION, London, 1844, p. 875; John A. Smith, THE MUTATIONS OF THE EARTH, New York, 1846, pp. 37-8; Eritzsepher (W. G. C.), REMARKS ON DR. BUCKLAND'S VIEW OF THE MOSAIC CREATION, London, 1837, p. 21; as well as a leading authority, Alphonse de Candolle, GÉOGRAPHIE BOTANIQUE RAISONNÉE, Geneva, 1855, pp. 1113 and 1339.

animal organisms numbering, of the one kind (according to Humboldt), some 320,000 species, and of the other, some 2,000,000 species (see Carpenter); and if to these we add the numbers of animals and vegetable species which have become extinct, we may safely estimate the number of species that have existed, and are existing, on the Earth, at not less than *ten millions*. Well, which is the most rational theory about these ten millions of species? Is it most likely that there have been ten millions of special creations? or is it most likely that, by continual modifications due to change of circumstances, ten millions of varieties have been produced, as varieties are being produced still? . . . Even could the supporters of the Development Hypothesis merely show that the origination of species by the process of modification is conceivable, they would be in a better position than their opponents. But they can do much more than this. They can show that the process of modification has effected, and is effecting, decided changes in all organisms subject to modifying influences . . . They can show that in successive generations these changes continue; until, ultimately, the new conditions become the natural ones. They can show that in cultivated plants, in domesticated animals, and in the several races of men, such alterations have taken place. They can show that the degrees of difference so produced are often, as in dogs, greater than those on which distinctions of species are in other cases founded . . . They can show, too, that the changes daily taking place in ourselves—the facility that attends long practice, and the loss of aptitude that begins when practice ceases—the strengthening of passions habitually gratified, and the weakening of those habitually curbed—the development of every faculty, bodily, moral, or intellectual, according to the use made of it—are all explicable on this same principle. And thus they can show that throughout all organic nature there *is* at work a modifying influence of the kind they assign as the cause of these specific differences: an influence which, though slow in its action, does, in time, if the circumstances demand it, produce marked changes—an influence which, to all appearance, would produce in the millions of years, and under the great varieties of conditions which geological records imply, any amount of change." (Essays, London, 1891, p. 1-4.)

François Jean Pictet, in the second edition of his monumental work, Traité élémentaire de paléontologie, which appeared between 1853 and 1857, is emphatic on the point that the hypothesis of special creations is extra-scientific, and that definite and scientifically traceable causes must be found to account for the origin of new species. In the first volume he rejects as inadequate the transmutation theory so far as the widely varying faunas of the great geological epochs are concerned, but accepts it where smaller differences are in question. Of the close relationships which frequently existed between successive faunas he was well aware (Vol. 1, p. 89). In the last volume, however, he suspects that the geological record may be very imperfect, and thus his objection to the complete adequacy of the transmutation theory is virtually removed (Vol. 4, pp. 569-70).

Alphonse de Candolle, in his Géographie botanique raisonnée (1855), repeatedly recurs to the problem of how to explain the succession of living forms throughout the geological epochs, and speaks of this problem as the leading biological question of the nineteenth century

(p. xiii.) He has no doubt that a scientific explanation should be forthcoming, but is only in part satisfied with the transmutation hypothesis.[11]

SHORTLY before Darwin's work appeared, one distinguished French botanist, Henri Lecoq, in his ETUDES SUR LA GÉOGRAPHIE BOTANIQUE DE L'EUROPE (Paris, 1854-5), pleaded warmly in a series of eloquent passages in favour of the evolutionary conception of the origin of species. (Vol. 3, p. 230; Vol. 4, pp. 361, 362, 383.)

THE revelations of geology created in England, Darwin's home, something like a general ferment of thought. Countless were the number of books and articles which either defended Genesis or, more and more frequently, endeavoured to reconcile it with the story unfolded by the rocks. Accordingly, before Darwin's ORIGIN OF SPECIES appeared, the verdict against the literal interpretation of the first chapter of Genesis had been cast and it was only a question of finding plausible interpretations which would save the creationist hypothesis. (A classic work on the subject was J. Pye Smith, THE RELATION BETWEEN THE HOLY SCRIPTURE AND SOME PARTS OF GEOLOGICAL SCIENCE, London, 1848.) With this was combined the universal conviction that the testimony of the rocks was in favour of a gradual progress in life forms, culminating in the most highly developed forms in our geological era. Simultaneously, a second influence was undermining the orthodox position, namely, the advances in comparative morphology that were responsible for Lamarck's theory of evolution and for Geoffroy Saint-Hilaire's insistence on the all-pervasive unity of animal structure. At first the argument from comparative anatomy was exploited in favour of the popular theory of design in nature; but eventually it was seen that the gradual progress in life forms, the unity of animal structure, and the recapitulative development of the embryo, were facts suspiciously pointing to a theory of evolution. Only the imperfection of geological theory and of the geological record momentarily saved the situation for the theologians. However, owing in the first instance to Lamarck and, more especially, to Chambers' VESTIGES, the evolution theory was widely discussed. Thus the present author has, incidentally, found references to Lamarck (La Mark, as one American author calls him) in the Bridgewater Treatises of Roget and Buckland, in the American Haldeman, in the ultra-orthodox Fennell, Nares, and Brown, in Hugh Miller, in W. C. L. Martin, in William Whewell, and in other works (but singularly enough none to Erasmus Darwin, if we except an indirect reference in Paley's NATURAL THEOLOGY). The VESTIGES made a profound impression. Hugh Miller's FOOTPRINTS OF THE CREATOR was nothing but an attempted reply to Chambers, and Adam Sedgwick's interminable DISCOURSE ON THE STUDIES OF THE UNIVERSITY OF CAMBRIDGE was largely devoted to the same object. T. V. Wollaston (ON THE VARIATION OF SPECIES, London, 1856) showed that variations were frequent, without accepting the evolution theory. Just ante-dating Darwin came the Rev. Prof. Baden Powell who frankly espoused the cause of "orderly succession" and "successive development," arguing that the facts revealed by geology and comparative morphology admitted only an evolutionary explanation. Preceding all these writers was William Paley who consecrated the last

[11] See also Hermann Burmeister GESCHICHTE DER SCHÖPFUNG, 1856, p. 431; H. G. Bronn, DIE ENTWICKLUNG DER ORGANISCHEN SCHÖPFUNG, 1858; and Carl Nägeli, BEITRÄGE, 1859, Part II., p. 34.

pages of ch. 23 of his NATURAL THEOLOGY, 1822, to the refutation of Buffon, Erasmus Darwin, and other non-creationists.

THE pre-Darwinian atmosphere in England is so important for an appreciation of Darwin's contribution that we venture to illustrate it by means of a number of additional quotations culled from various sources. Charles Bell, THE HAND, 1852: "Everything declares the diversity of species to have its origin in distinct creations; and not to be owing to a process of gradual transition from some original type" (p. 180). "It is alleged that the variety of animals existing in the world is not a proof of design, or of there being a relation between the formation of their organs and the necessity for their exercise; but it is supposed that the circumstances in which the animals have been placed are the cause of the variety. It is pretended that, in the long progress of time, the influence of these circumstances has produced a complication of structure out of an animal which was at first simple" (p. 42). (The 1834 edition only differs verbally from the above.)—William Buckland (GEOLOGY AND MINERALOGY, London, 1836, p. 16) speaks of "the numerous and regular successions which they [the strata] contain of the remains of animals and vegetables, differing more and more widely from existing species, as the strata in which we find them are placed at greater depths." R. Fennell (GEOLOGY, London, 1836, p. 70), referring disparagingly to Lamarck, continues: "Does not the Mantellian and Bucklandian 'Age of Reptiles' approximate this doctrine, showing us that animals are perfected by degrees?" S. Best (AFTER-THOUGHTS ON READING DR. BUCKLAND'S BRIDGEWATER TREATISE, London, 1837, p. 30) writes: "Why may not progression account for some [of the successive changes in species], and other causes for others?" Prof. Robert E. Grant, in his "Lectures on Comparative Anatomy and Animal Physiology" (in THE LANCET, 1834, p. 1001) rallies to the evolutionary standpoint: "A slight inspection of the organic relics deposited in the crust of the globe, shows that the forms of species, and the whole zoology of our planet, have been constantly changing, and that the organic kingdoms, like the surface they inhabit, have been gradually developed from a simpler state to their present condition. These slow changes are regulated by the laws which preserve individual forms, and check the transmission by generation, of modifications suddenly induced." W. C. L. Martin (A GENERAL INTRODUCTION TO THE NATURAL HISTORY OF MAMMIFEROUS ANIMALS, London, 1841), discussing in detail theories of evolution, states in passing: "Buffon, and even Linnæus, denied the durability of species, and regarded the races of animals now extant as the diverging products of a given number of original stocks" (p. 162). William Whewell devotes a whole chapter of his HISTORY OF THE INDUCTIVE SCIENCES, vol. 3, 1847, pp. 284-94) to the evolution problem. An anonymous author of decided ability writes as an out-and-out believer in evolution: "There is no department of nature in which our conceptions of the power of the Creator would be more exalted, by viewing all these adaptations as the result of some inherent principle implanted in the earliest forms of life, itself perhaps the consequence of some anterior arrangement in the universe." (SOME THOUGHTS ON NATURAL THEOLOGY, suggested by a work entitled VESTIGES, &c., London, 1849, p. 61). Adam Sedgwick (op. cit., 1850) discusses in detail "progressive development" and "transmutation of species." He also states that "the approach to the present system of things has been gradual, and there has been a progressive development of organic structures subservient to the purposes of life" (p. xlv). Hugh Miller (TESTIMONY OF THE ROCKS, Edinburgh, 1857, p. 202) writes: "There was demonstrably a general progress, in the course of creation, from lower to

higher forms." And in his FOOTPRINTS OF THE CREATOR (Edinburgh, 1849, p. 13) he states: "Is the species, like the individual, an object of progressive development, induced and regulated by law? The assertors of the revised hypothesis of Maillet and Lamarck reply in the affirmative." Another frank supporter of the evolution theory was the defender of Geoffroy St.-Hilaire, Robert Knox. In his GREAT ANATOMISTS (London, 1852), he writes: "The living organic world and the past have been formed upon one plan, one scheme of Nature, the basis of which is the unity of structure and unity of organisation" (pp. 55-6). "I believe all animals to be descended from primitive forms of life" (p. 109). Baden Powell (ESSAYS, London, 1855, p. 410), writes: "Do we require anything more than the strict observance of the very same laws of slight changes of forms accompanying corresponding changes of condition, acting through periods of incalculable length?" Darwin himself might have penned this last sentence.

CHAMBERS' fatally weak point was his lack of scholarship. Hence many triumphant refutations of his views. Darwin's super-scholarship thus wrested the main weapon from the hands of the opponents of the evolution theory.

MEANWHILE one thinker, besides Darwin—also, significantly, a traveller and collector—had, in a manner, made it his life task to elucidate the problem of the origin of species. In 1845 Alfred Russel Wallace was already interested in Chambers' VESTIGES. A year or two afterwards he writes to Bates: "I should like to take some one family to study thoroughly, principally with a view to the theory of the origin of species." (Alfred Russel Wallace, MY LIFE, London, 1905, vol. 1, pp. 256-7.) In the autumn of 1847 Wallace proposed to Bates a joint expedition to the River Amazons, his intention being to "gather facts, as Mr. Wallace expressed it in one of his letters, 'towards solving the problem of the origin of species.'" (Henry W. Bates, THE NATURALIST ON THE RIVER AMAZONS, London, 1892, p. vii.) In 1855, at last, he published a thorough but unostentatious brief essay, entitled ON THE LAW WHICH HAS REGULATED THE INTRODUCTION OF NEW SPECIES (reprinted, together with his later essay, in his CONTRIBUTIONS TO THE THEORY OF NATURAL SELECTION, London, 1871) which, however, attracted little attention. The explanatory law which he proposes runs: "Every species has come into existence coincident both in space and time with a pre-existing closely allied species" (p. 5). And he continues: "This law agrees with, explains and illustrates all the facts connected with the following branches of the subject:—1st, The system of natural affinities. 2nd, The distribution of animals and plants in space. 3rd, The same in time, including all the phenomena of representative groups, and those which Professor Forbes supposed to manifest polarity. 4th, The phenomena of rudimentary organs" (pp. 5-6). The essay deals in a luminous and constructive manner with the problems of geographical and geological distribution, showing their interdependence, and incidentally dwells on the imperfection of the geological record. As will be noted, Wallace's statement is a purely evolutionary one.

" For three years from the time that he wrote the essay," the ENCYCL. BRITANNICA (11th edition) states, " he tells us that ' the question of *how* changes of species could have been brought about was rarely out of my mind. ' " His final essay, also a short one, ON THE TENDENCY OF VARIETIES TO DEPART INDEFINITELY FROM THE ORIGINAL TYPE, written after a severe attack of ague, when it occurred to him that Malthus had proposed the causal solution, was therefore not a brilliant flash of the creative imagination, but the outcome of over a decade of strenuous thought. It is vital to remember this in judging of its high merit. Darwin, to whom Wallace sent his essay, in writing to Lyell, said: " I never saw a more striking coincidence. If Wallace had my MS. sketch written out in 1842, he could not have made a better short abstract! Even his terms now stand as heads of my chapters! " (LIFE AND LETTERS, vol. 2, p. 116.) According to Wallace, " the life of wild animals is a struggle for existence " (Alfred Russel Wallace, CONTRIBUTIONS TO THE THEORY OF NATURAL SELECTION, London, 1871, p. 28.) The struggle for existence, change in environment, and minute germinal variations of a favourable character are offered as explanations of the developmental process.

DARWIN was deeply impressed with " the striking coincidence." Is it not possible to offer a more scientific interpretation of the event? We think there is. With ever greater advances in comparative anatomy, embryology, palæontology, knowledge of geographical and geological distribution, the breeding of animals and the cultivation of plants, and the ætiology of living beings, we must necessarily expect a certain type of theory to emerge, and this, we submit, was the case. The general outlines were given for the scholar at that date by the actual stage which scientific development had reached. That is, Wallace could not have written differently on the theme, because his cogitations were necessarily circumscribed by the state of the biological sciences of his day.[12]

A YEAR later, precipitated by Wallace's essay, Darwin's revolutionary ORIGIN OF SPECIES was published. We are now in a position to inquire how far that work offered an original contribution to the elucidation of the theory of descent. The general scientific conception of organic advance was then about a century old. On this score, as we have seen, discussion is excluded. Let us glance at the headings of Darwin's chapters: I. Variation under Domestication. (Numerous authors, we have observed, had referred to this; even Agassiz freely acknowledged it.) II. Variation under Nature. (This, too, was dealt with by preceding authors, although the evidence was scantier, as it is also in Darwin.) III. Struggle for Existence. (We know

[12] For other pre-Darwinian evolutionists, see " An Historical Sketch," prefixed to Darwin's ORIGIN OF SPECIES, as well as the works of Clodd, Judd, Osborn, Perrier, and Quatrefages, on the same subject.

whence Darwin derived this conception.) IV. Natural Selection. (We have discussed this in connection with several authors.) V. Laws of Variation. (Perhaps most of his arguments had been employed by his precursors.) VI. Difficulties of the Theory. VII. Instinct. VIII. Hybridism. (Instincts and hybridism constituted grave difficulties which Darwin sought to meet and remove.) IX. On the Imperfection of the Geological Record. (This had been expatiated on by other authors, and notably by Wallace.) X. On the Geological Succession of Organic Beings. (One of the central themes of the developmentists. Agassiz has a chapter entitled "Geological Succession of Animals.") XI. and XII. Geographical Distribution. (These problems repeatedly occur in our historical survey. One of Agassiz's chapters is headed: "Geographical Distribution of Animals.") XIII. Mutual Affinities of Organic Beings: Morphology: Embryology: Rudimentary Organs. (All of these were dealt with by Darwin's predecessors.) The general contents of Darwin's work would therefore appear familiar to any one who had made a close study of the evolution of the evolution hypothesis up to the date of the appearance of Darwin's work.

It is somewhat startling to find that by 1842 Charles Darwin had tentatively set forth the broad outlines of his Origin. This earlier statement has more than an antiquarian interest. Manifestly, in drawing up his first set of systematised notes, Darwin arranged his matter from the point of view of the needs of research. Assuming the general arguments in favour of organic evolution as readily proven, he inquired which were the problems that specially demanded elucidation. Thus, for his own convenience probably, he dealt first with variation under domestication, then with variation under nature, natural selection, difficulties of the theory, the geological succession of organic beings, geographical distribution, and, more incidentally, diverse other matters perhaps more fundamental than some of the foregoing. In 1844 he expanded these notes considerably, still following the same personally convenient order. And, in 1859, he continued the amplification of the original notes, leaving the initial arrangement virtually intact. Hence the line of argument pursued in the Origin of Species can be only properly appreciated when we look upon the volume as a transfigured notebook and not as a work arranged on a rigorously logical basis where matters are treated in the order of their theoretical sequence and significance.

Let us now approach from a different direction the problem of Darwin's individual contribution. Studying the pre-Darwinians, always excluding Wallace, we find no very definite idea in regard to the nature and the magnitude of the individual variations in living forms. Here, theoretically, we note a decided advance in Darwin.

He reasons, on the one hand, that variations are generally infinitesimal, and, on the other, that the geological record extends to untold millions of years. In this way the absence of traceable deviations in living wild species is explained, and yet time allowed for the imposing panorama of change disclosed by comparative anatomy and palæontology. Now Lyell made the Huttonian theory of uniformity in nature the main foundation of his PRINCIPLES OF GEOLOGY, and was never tired of tracking gigantic changes to inconspicuous causes. As we have quoted Judd, the developmental process was accomplished according to Lyell, " not by overwhelming catastrophies, but by the silent and almost unobserved action of natural causes." Being an ardent admirer of Lyell, it was only natural that Darwin should have early adopted this objectively and dialectically critical viewpoint in regard to the microscopic nature of individual variations.[13]

IT is not clear how Darwin arrived at his notion that germinal variations were of primary consequence. So frequently, especially in his DESCENT OF MAN, has he recourse to the concept of use and disuse that his attitude towards the problem of use and natural variation appears arbitrary, or at least obscure. Suffice it that Lamarck was sharply criticised, and that it was forced on evolutionists (see Chambers' VESTIGES) to stress natural, or what we now call, germinal variation.

DARWIN derived the fullest benefit from his tremendous accumulations of materials. That in itself made men pause before attacking or criticising the ORIGIN OF SPECIES. He profited even more by forestalling disconcerting objections. Having had the priceless advantage of frequently discussing developmental problems with two such distinguished savants as Lyell and Hooker, he was thoroughly conversant with the objections likely to be raised to his theory. From the logical standpoint also, this attitude must have recommended itself to him, for it tended to convince the critics that Darwin endeavoured to be fair, and that they had been anticipated. With violent, and even with virulent, opposition certain, it was impossible to take too many precautions. He already felt in 1842, to judge by his first sketch, that the supreme need was not an elaborate or novel theory, but a skilful exposition which would dispose of the principal objections likely to be made by the opponents of the transmutation theory. Here he systematically applied in a striking and convincing manner the logical category of " degree," calling attention to numerous transitional stages, actual or possible.

[13] In this connection it is interesting to notice that Herbert Spencer in his THE DEVELOPMENT HYPOTHESIS, written in 1852, had already clearly grasped this point. There he states that " by small increments of modification, any amount of modification may in time be generated," and that " we may pass to the most diverse forms by insensible gradations." As we have seen, Baden Powell grasped the same point clearly : " Do we require anything more than the strict observance of the very same laws of slight changes of form accompanying corresponding changes in condition, acting through periods of incalculable length ? "

THE doubtful reception in store for his work also influenced his style, tending to make it as inoffensive and conciliatory as possible. Indeed, most authors who approached this subject followed the same rule and for the same cogent reason. It would have been suicidal to have written in a dogmatic or provocative manner. Even imprisonment for blasphemy might have followed. We know, besides, that Darwin's sensitive nature shrank from the cockpit of unrestrained debate.

DARWIN had a further incalculable advantage over most writers on the subject of the evolution of animate forms. Having an independent income, he could devote uninterruptedly many years to the solution of the one problem which profoundly interested him. Had he been less independent economically, he could not have collected and sifted his magnificent aggregation of materials, and his treatise could not have been as impressive and influential as it was.

VIEWED from the angle of remarkable originality, of an originality which would place him in an order by himself, sky-high above others, Darwin cannot be regarded as markedly exceptional. The general theory of organismal evolution he never laid claim to have originated; the principle of natural selection was applied by others before him; his general statement differed little from Wallace's; and the invaluable advantages of his experience as naturalist on the *Beagle*, his kinship to Erasmus Darwin whose reasoning he closely followed, his economic independence, his concentration on this issue, and his friendships, weighed heavily, one may say, crucially, in his favour.

DARWIN wrote other works before and after his ***magnum opus***. These made only an indifferent impression on mankind at large. As Prof. Judd pertinently remarks: "If the world had sustained the great misfortune of losing Darwin by death before the age of forty [fifty?] —and several times that event seemed only too probable—he might have been remembered only as a very able geologist of most advanced views, and a traveller who had written a scientific narrative of more than ordinary excellence" (p. 374). What an illimitable distance lies between the might-be Darwin and the actual one! the one—one of a crowd, the other—the most commanding figure of a commanding century. Manifestly, his theme, his time, and his circumstances, offer, in combination, an adequate, and the only scientific, explanation of his pre-eminent place among nineteenth century celebrities. We fling scientific history out of the window when we ascribe to Darwin immensely greater capacities than ordinary mortals possess. A minute and unbiassed analysis, such as ours we hope has been, assigns to Darwin the dimensions of a good specimen of a specio-psychic creature, acting, from the point of view of a certain goal to be reached, under something like ideal conditions.

We have quoted Prof. Judd's estimate of what the world would have thought of Darwin's intellectual status if he had succumbed to some malady before he had had time to publish his key work. We may go further. If Darwin had published his forty pages' sketch of the developmental process which he had written in 1842, the impression created thereby—although, in the crude, it corresponds to the Origin—would not have been extraordinary. Even if he had published in 1844 his extended and more polished manuscript sketch of some 200 pages, its fate would not have been very dissimilar, despite its intimate resemblance to the Origin. Not his basic views, therefore, but their fulness and manner of presentation, combined with the favourable scientific atmosphere,[14] swept him into the hall of fame. No other explanation, we think, seems open to the historian of science.

Darwin's theory, as presented by him in 1859, reflected the progress of the biological and geological sciences to his day and the evolutionary deductions therefrom, as is manifest from the intimate resemblance between his views and those of Wallace. The marvellously close anatomical relations revealed by a natural classification, the structural ground plan observable in a general survey of the animal and plant kingdoms, the remarkable ladder of life leading from amœba to man, the palæontological record gradually approximating the present flora and fauna, geological and geographical distribution, the embryological recapitulation theory, the existence of rudiments and the occurrence of reversions, experiences with variation under domestication, adaptation to environment, a clearer conception of variation and the struggle for existence, all forced themselves more and more definitely on the attention of alert biologists, and would have unquestionably continued doing so independently of Darwin's treatise. Indeed, but for the all-overshadowing fact that observation of extant species and examination of geological formations offered no proof of one species passing into another—a fact which absolutely fascinated and paralysed most pre-Darwinian naturalists and led to numerous extravagant hypotheses—the evolution theory would have been adopted some time before Darwin. If Darwin's work turned the tide, it was because naturalists had come to feel that they must adopt the evolution theory even though it could only be demonstrated by indirect evidence.

This review of the trend in the biological and geological sciences brings us face to face with the inevitable shortcomings of Darwin's performance. Certain elemental biological facts had not as yet been unearthed by the science of his day. On this account Darwin prudently refrained from dealing with the origin of life itself, ranging himself in this respect with Erasmus Darwin. Nor did he succeed,

[14] According to a note by Darwin the first edition of the Origin of Species, consisting of 1,250 copies, was sold out on the day of publication.

for the same reason, in throwing any light on one of the pivotal aspects of the theory of organic evolution, namely the genesis of germinal variations. Beyond this, he felt himself justified in treating only tentatively and suggestively the exact relations between germinal variations and the struggle for existence, without which little insight could be obtained into the evolutionary process. Nor were his views satisfactory with regard to the place to be allotted to the inheritance of acquired characters, a matter only thoroughly studied since his day. Even the very moving force of the evolutionary process has since received widely extended interpretations, such as those of Kropotkin and, recently, of Reinheimer. The problems revealed by Mendelianism were, of course, also naturally overlooked, nor was he acquainted with modern observations pertaining to heredity and tropisms. In brief, even to-day we are far from being able to propose a truly adequate theory of the transmutation of species, and this because the advances registered in the biological and geological sciences, great as they have been since 1859, have not been sufficiently far-reaching. If Darwin's theory, then, reached only a certain moderate stage of perfection, that was due first and foremost to the slow improvement of the sciences germane to the theory of descent with modification.[15]

It is sometimes hinted that but for Darwin's Origin, biologists would be still treading the creationist road. This is eminently improbable. The leading facts revealed by palæontology, namely the ascending series of fossils, more particularly in connection with comparative morphology, were becoming wholly inconsistent with the creationist hypothesis and cried aloud for an evolutionist interpretation. Agassiz could only maintain his orthodox attitude by assuming numerous world catastrophes in the past; but this explanation was being fatally sapped by the rapidly rising Huttonian school in geology, which discredited Catastrophism and posited slow changes such as the different parts of the globe are undergoing now. A decade or two more of scholarship would certainly have combined these complementary verities, and this would have rendered the creationist hypothesis untenable, if not grotesque. Other branches of biology would have meanwhile also further developed, until the creationist would have had, willy-nilly, radically to reinterpret his creed. This process of silent but irresistible change is perceptible in most issues, *e.g.*, the far-reaching humanisation and re-orientation of Christianity during the last generation or the concurrent development of humaneness and democracy. In virtually every direction progress is realised without the interposition of the "man of genius."

[15] The subject of this paragraph is partly touched on by Leonard Darwin, Organic Evolution: Outstanding Difficulties and Possible Explanations, Cambridge, 1921, and is rather fully dealt with by Richard Hertwig, "Abstammungslehre," in Abstammungslehre, &c., by Richard Hertwig and R. v. Wettstein, Berlin, 1914.

DARWIN, however, represented a revolutionary movement which stormed and captured the strongholds of prejudice and error instead of, in evolutionary fashion, insensibly transforming them. There is, according to circumstances, room and need for both methods in social advance, and we shall certainly not be among those who would belittle the beneficial effects of the revolution wrought through Darwin. In fact, it might be said that the semi-consciously exercised terrorism of theologians suppressed free and steady development in biology, and thus invited a long and well meditated attack on one of their cherished beliefs. The actual trend of the age became manifest as soon as liberty of research had been won. Biologists as a body, it was found, were not interested, as Darwin naturally was, in theoretical evolutionism and in the removal of its difficulties. They rather accepted the theory as an excellent working hypothesis, leaving it to a few specialists—such as Huxley, Haeckel, and Weismann—to defend the hypothesis and to continue the search for the causes of transmutation. More than this, evolution became the watchword of the age, and the concept was interpreted far more comprehensively and drastically than it had been by Darwin. Darwin burst the doors open, and a great concourse which had been impatiently waiting for this auspicious event, streamed forth and reorganised the world's work on an evolutionary basis. In this sense Darwin acted as a liberator of pent-up energies, rather than as one who supplies a dogma or a sect to the world.

WE submit, accordingly, that even the life work of the most illustrious in his famous century, when impartially examined, vindicates the specio-psychic theory of man, namely the theory that the cultural contribution of any one individual is microscopic and that the innate capacity of human beings varies only infinitesimally. This view is in harmony with man's near filiation to the highest Primates and with the universal law of the virtual uniformity of the members of any species, and provides sociology with what is indispensable to a science —a practically unvarying and therefore calculable unit.

G. SPILLER.

THE SOCIAL ORIGIN OF FARMERS IN WALES

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In public discussions of the principles of a national policy of industrial or social organisation of agriculture, ideas and feelings arise which are emphasised or belittled by advocates or opponents according to their personal inclinations and experiences. The national need or the individual desire for a "social ladder" in agriculture is thus often postulated. A somewhat similar idea sometimes arises in another form, when it is said that farming is too much of a hereditary profession, or that it suffers from inherited traditions and needs "new blood." The opponents of this idea incline to the view that a good farmer, like a poet, is born and not made: or at least believe that to become a good farmer it is necessary to begin gaining experience at an early age. On a subject which is not of such a humane nature, lying more within the sphere of economics, it is sometimes said that credit is little needed in agriculture because the capital required in the industry is handed down from one generation to another. Again, it is sometimes stated that farm employees or other manual workers in rural areas need opportunities of control of land as a basis for economic or moral independence. But there is no quantitative measurement of these human needs or conditions or even of the possibilities of meeting them; and so long as no definite information is available such notions can be argued *ad nauseam*.

Some of these human factors in agricultural organisation have been the subject of more or less casual observation. An examination of nineteen parishes in England by Lennard showed that 71 per cent. of the farmers were sons of farmers, but no information was given on the origins of the remaining 29 per cent.[1] Hewlett reported: "It was stated to me that half the farmers in Cumberland began as labourers, and my observations confirm it";[2] but he does not state whether they were sons of small farmers or sons of farm employees. On Westmorland he reported: "There is no means, unfortunately, of ascertaining what proportion of young unmarried labourers save enough money to start farming on their own account. All that I can say is that the habit is common enough to be common talk."[3] In Northumberland, he said, "it is from the shepherd class the best farmers are made."[4] Hewlett further stated that in a study of the farmers of Glendale (Northumberland) made in 1914 it was "found that out of 29,000 acres in that county 17,000 acres were occupied by men who, or whose fathers, had

[1] Lennard: Economic Notes on Agricultural Wages. pp. 57-59.
[2] Wages and Conditions of Employment in Agriculture, Cd. 25, 1919. p. 53.
[3] *Op. cit.*, p. 366. [4] *Op. cit.*, p. 249.

been agricultural labourers."[5] Another and more general observation is that "In parts of Devon and Cornwall, where farms are unusually small, 40 per cent. of the farmers have been labourers. But in England as a whole, 70 per cent. of the farmers come of farming stock; of the remaining 30 per cent., many have been village tradesmen or are the sons of these, and a few come from other sources. Very few have been labourers."[6] Such is the type of information which has hitherto been available. It indicates that the proportion of farmers drawn from the class of farm workers tends to be high in hilly and pastoral areas; but it is generally too vague to give any definite idea of the social origins of the present generation of occupiers of farms.

CONSEQUENTLY an attempt has been made to obtain for Wales a measure of the fluidity of the farming class generally, and of the extent to which there is an economic or social "ladder" within the industry. Records of the antecedents of over 800 occupiers of farms in Wales and Monmouth have been obtained from eleven of the thirteen counties, the counties unrepresented being Flint and Merioneth. To avoid selection as far as might be possible the intention was to cover the whole of the farmers within a single parish in each area. But this was not always possible and parishes vary in size, so that the antecedents of varying numbers of individuals were recorded in the different areas. Nevertheless, it is believed that a fairly representative sample has been obtained. The enquiry included the following items: (1) Size of holding, area in arable, pasture and rough grazing; (2) Rent or "gross estimated rental" (for rating purposes); (3) A judgment of the quality of farming "according to the standard of the district" under one of the three qualities (*a*) Good, (*b*) Medium, (*c*) Poor; (4) The previous occupation of the farmer (if any); (5) Occupation of farmer's father; (6) Occupation of farmer's grandfather. Items one to five have been fairly regularly recorded.

IN a far-flung enquiry of this character there is necessarily some tendency towards vagueness of meaning of terms, but every effort has been made to obtain records in comparable form. There are districts in Wales in which nearly all farms are small, and in which many if not the majority of occupiers have another occupation. There are everywhere amongst the occupiers of the smaller holdings, individuals who are in the same position.[7] But for the purposes of this enquiry a

[5] *Op. cit.*, p. 252.

[6] Ashby: THE DEVELOPMENT OF ENGLISH AGRICULTURE AND RURAL LIFE. National Home Reading Union. p. 23.

For other discussions see Ashby: ALLOTMENTS AND SMALL HOLDINGS IN OXFORDSHIRE. 1917. pp. 8, 9, 88, 89, 97, 98.

[7] As regards England: see Ashby: ALLOTMENTS AND SMALL HOLDINGS IN OXFORDSHIRE. pp. 126, 132, 135, 138.

"farmer" has been defined as a person who gains a livelihood by farming land, whether the area be large or small. Other persons occupying land, such as miners or tradesmen who obtain the major part of their livelihood from some other occupation, have not been included. The item of the size of farms is one which does not lend itself to exact definition, and even if it did, it has little validity as a measure of the size of the business, especially in Wales, where many categories and qualities of land occur. The rental value is a better indication of the size of the business which may be carried on upon the farm, although actual rents may vary from real rental value to a considerable extent. But here another complication arises. Real rents are not always ascertainable, and "gross estimated rental" for rating purposes has frequently been stated. These gross estimated rentals may vary from a little more than the actual rent (or a fair economic rental in comparison with rents of similar farms in the neighbourhood) to three-fourths or even to two-thirds of the comparative rental value. On the "previous occupations" of farmers the information sought was whether or not the present farmer had another occupation for any important part of life; and especially if he had any such occupation after reaching manhood at the age of say 20 or 21 years. When the son of a farmer had been in another occupation for two or three years of his youth and had then returned to farming, he has been recorded as a "farmer's son." In regard to the occupation of the father or grandfather of the present farmer, the information sought was whether he was a farmer at any time during his working or business life. The other item, of quality of farming, need not be discussed, for the analysis of records on this point is not here given.

THE general, and simple, results of this enquiry are interesting and may be of some practical value. The distribution of farms by rentals is as follows:—

Rental Groups. *Rent or Gross Estimated Rental.*	Number of Farmers.	Percentage of Total.
1. £30 and under – – – *Maximum possible rental, £40.*	194	23.26
2. £31—49 – – – – *Maximum possible rental, £66.*	155	18.58
3. £50—99 – – – – *Maximum possible rental, £133.*	322	38.61
4. £100—149 – – – – *Maximum possible rental, £200.*	104	12.39
5. £150 and over – – –	59	7.07
TOTAL – –	834	100.00

Some slight vagueness of classification arises from the difficulty of obtaining all actual rents. The rental classifications above includes both real rentals and "gross estimated rentals," and in the case of occurrence of the latter near the maximum figure given for each group, it may overlap with the next group. Thus the range of rentals shows the range inclusive of actual and estimated rents. The maximum figure shows the maximum for each group, allowing for the necessary addition to estimated rentals. However, the possible complication here does not appear to be frequent.

An analysis of the previous occupations of the farmers in these groups gives the following interesting results:—

Previous Occupation of Present Farmer.

Group.	Agricultural Occupation.		Manual Occupations.		Other Occupations.		Total.
	Farmer's Son.*	Farm Worker (employee).	Other Manual Workers (generally unskilled).	Artisans.	Requiring Capital.	Not requiring Capital.	
1	76	79	23	14	2	–	194
2	85	38	16	7	5	4	155
3	241	53	15	6	3	4	322
4	86	11	2	1	3	1	104
5	49	5	–	1	2	2	59
Total –	537	186	56	29	15	11	834
Per cent.	64.38	22.3	6.71	3.48	1.8	1.31	100

Thus amongst this group of farmers, some 64 per cent. are sons of farmers who have never been engaged in any other occupation than that of farming, either as workers on the family farm or as farmers themselves. Some 22 per cent. have been hired farm workers; but, as will be seen later, some of these are sons of farmers. Over 10 per cent. have been engaged as artisans—masons, carpenters, &c., and as manual workers in other industries. About 3 per cent. have had other occupations. The reference to capital in connection with this group is to its use or need in the previous occupation and not to its possession. This small group is of a miscellaneous character. It includes men who have previously followed such professions as that of solicitor, preacher, teacher, &c., and it generally consists of persons previously engaged in "trades and professions." Although there is a little uncertainty in the classification of holdings by rentals, it is clear

*A few women occupiers are included in the records, and in individual cases "daughters" should be read.

that the proportion of persons who have never been anything but "farmers' sons" increases as the rental value of the farm rises; and that the proportion who have been farm workers falls as the rental value rises. It also appears that artisans turning to farming tend to start on small farms. Further analysis of records may make possible a more definite statement on these points.

As it is more difficult to obtain information about the grandfathers than the fathers of the present farmers the analysis of occupation of grandfathers is not here given, for analysis is limited to those cases for which all items of information was obtained. The occupations of the fathers of the 834 farmers were as follows :—

OCCUPATION OF FATHERS OF FARMERS.

Group.	Occupations requiring Capital.		Farm Worker.	Other Manual Work.	Artisan.	Other Occupations Unclassified.
	Farming.	Other.				
1	106	1	42	21	23	1
2	112	1	15	16	10	1
3	264	–	24	20	10	4
4	92	–	7	2	3	–
5	50	1	2	3	1	2
Total –	624	3	90	62	47	8
Per cent.	74.82	0.36	10.8	7.43	5.63	0.96

Comparing this table with that preceding it the most important fact is that the number of farmers whose fathers were farmers is greater than the number of farmers who were stated to be "farmers' sons" as regards previous occupation. The numbers are 624 and 537 respectively, and the remaining 87 persons who were in fact sons of farmers are to be found in the other columns, but it is surmised that they are chiefly to be found under the description of previous occupations in the column of "farm workers." Taking all the groups together, about 75 per cent. of the present farmers are descended from farmers.[9] About 11 per cent. of them are sons of farm workers, nearly 7½ per cent. are sons of manual workers not engaged in agriculture; and nearly 6 per cent. are descended from artisans. The most surprising features are that so few of the "incomers" are descended from persons in trades and professions, and that such a large proportion are descended from manual workers not engaged in agriculture and from artisans, for these two groups together exceed the numbers in the group who are descended from farm workers. Again, it is

[9] This follows closely the general estimates made for England.

clear that the persons who enter the occupation of farming, not being sons of farmers, tend to enter on the smaller farms ; and that the proportion of the present farmers who are sons of farmers is highest in the farms with the higher rentals, though the proportion is not highest in the group with the highest rentals.

THE last statement, however, tends to obscure the very important fact that even on the farms with the higher and highest rentals there are many farmers who have more distantly derived from other classes, and that there is a constant flow of " new blood " from one level to another. But the most important fact that there is a loss of the " farming families " to the industry is not directly shown by the figures. This loss is considerable and probably amounts to about 20 per cent. of the total as each generation of farmers passes. It may amount to the 25 per cent. represented by the "incomers" but does not appear likely to be quite so much at the present time, because of some tendency to increase the number of small farms and thus the total number, making some new opportunities for the new men. There is no exact statistical measure of this movement. The *Census* shows a fall of nearly 8 per cent. in the number of farmers between 1871 and 1881, fairly constant numbers from 1881 to 1911, and a rise of 8 per cent. between 1911 and 1921.

FARMERS AND GRAZIERS IN WALES AND MONMOUTH.

	Males.	Females.	Total.
1871 – –	35,355	5,792	41,147
1881 – –	32,378	5,627	38,005
1891 – –	32,497	6,090	38,587
1901 – –	32,083	5,888	37,971
1911 – –	32,091	5,645	37,736
1921 – –	35,774	5,051	40,825

THE statistics of " agricultural holdings " published from time to time in the *Agricultural Returns* do not, unfortunately, provide any effective check on these figures. The recent increase which is shown may partly account for the presence of the large proportion of "newcomers." Yet if the whole class of farmers is as steady in numbers as the *Census* indicates, then nearly a quarter of the farmers in every generation appear to be derived from non-farming families.

THIS is an exceedingly important fact. It affects considerations on rural education, general and technical ; it affects consideration of need of credit facilities ; and it affects all considerations of the economic

and social principles which should determine the size of the holding or of the unit of business in farming. If a quarter of the farmers are recruited from families in which they do not obtain the social and intellectual inheritance of farming knowledge and experience, and if the majority of these do not inherit and have to save capital, provision must be made to assist them if personal capacities and national material resources are to be used to the best advantage.

THERE is also another aspect of the facts contained in this analysis which is not at first obvious. Farming obtains " new blood " and new, and mostly saved, capital from the new comers. But it loses equally in personnel and in capital through the loss of the families which are displaced. " Displaced " is perhaps not an adequate term. There is some evidence of real displacement in the records. There are indications not only of an " upward drive " of the new comers, but also of a " downward drift " of the farming families. To some extent there is displacement through real and effective competition. There is also loss of efficient personnel of farming families, possessing capital, through sons and daughters passing out to other trades and to the professions, thus making openings for new comers. The whole process is one of a gradual rise of new comers, a gradual depression of the weaker families of the farming class and of the passing out of efficient capable personnel often at a stage of comparative affluence.

THE human desires of potential farmers are somewhat influenced by conditions in other industries. But it is evident that during the last quarter of a century there has been a considerable desire for a " farming ladder." The economic organisation of the industry must continue to provide this if it is to satisfy human needs for facilities for the expression of personal inclinations and capacities. But the fact that many of those who climb this ladder have had no intimate experience of farming and that few have any except a small capital, and that mostly saved, helps to explain why the small farmers of this country mainly copy the larger farmers in their technical methods, and do not frequently develop systems of cultivation and use of land especially adapted to small farms as such. Indeed, it appears that the aim is rather to climb the ladder to the larger farm which is the desired unit, than to make a financial success and a comfortable livelihood on the small farm as such.

IF the sample of the farming population analysed above is at all representative, it cannot any longer be assumed that there are rigid class distinctions, and therefore " class " needs in education in agricultural districts. Education, especially of a technical character, must be widespread if it is to assist in the economical utilisation of land and other resources in agriculture.

ALTHOUGH capital is saved for the purpose of entering small farms, and although earnings or profits are "saved,"[10] there can be little doubt that in individual families both in the pre-farming and the farming stages it is saved at the expense of the physical and intellectual well-being of the families or certain of their members. Some of the conditions of the climb, mainly due to the necessity of saving, are anti-social in their effects. These could be mitigated by the supply of credit, but where land-hunger is strong they will never be entirely removable. The idea of credit—or of "borrowing" or "being in debt"—is not popular. There are many small farmers who prefer the physical hardship of saving to the mental worry or the moral indignity of a "debt." If the suspicion which attaches to credit (other than normal "trade credit") could be removed there is no doubt that increased facilities for obtaining capital would lead to the better utilisation of land. But when all is said, or done, the increased provision of access to land for persons of non-farming families must depend for its success upon the development of special systems of cultivating and stocking land adapted to continued life on the small farm. Some climbing is desirable and in fact necessary, but the amount of this is limited by the loss of farming capital and personnel either by the downward drift of farming families within the industry and their passing out to lower social and industrial status, or by their passing out at the higher levels of the industry as at present organised to other trades and professions.

[10] That is, not enjoyed in consumption but re-invested in the business often without any feeling of self-denial in saving, the pleasure of re-investing being greater than the possible pleasure of consumption enjoyment.

THE INDUSTRIES OF READING: A STUDY IN REGIONAL DEVELOPMENT.*

I. The Factors of the Problem.

The purpose of this paper is to examine the growth of Reading, and more especially its industrial activities, with a view to determine the relative importance of three factors in its development: viz. (1) geographical factors: (2) historical factors: (3) personal initiative. Amongst geographical factors that go to the building up of an industry may be mentioned: (*a*) a commanding position affecting communication facilities, access to supplies of raw material, and to suitable markets: (*b*) a background of agricultural wealth, not only for food supply to the workers, but also for imparting economic stability to the area as a whole: (*c*) an adequate supply of labour at the right price and of the required intelligence: (*d*) the ability to obtain locally cheap power in any required quantity: (*e*) the presence within easy reach of abundant supplies of raw material.

With regard to *Position*, Reading developed first on the high land on the north bank of the Kennet, overlooking the Thames from a distance, and separated from it by a considerable expanse of low-lying ground, only recently built on, and even now liable to flood. It has thus been forced to expand along the main *roads* east and west, and over the *high land*, north of the Thames and S. and S.E. of the Kennet, rather than along the Thames. Its busiest districts are in close proximity to the *Kennet* and to the *railways*, rather than near the Thames. It always was—and to some extent still is—Reading-on-Kennet, and not Reading-on-Thames. As an *inland river port* it had at first very few advantages. It is 70 odd miles by river from London, far above tidal waters. It lies near the junction of two streams, the smaller of which led to—or from—a comparatively unimportant district, the larger not really commanded by Reading at all, for London commands the lower Thames, Oxford the upper stream. Reading lay at no particularly important point with regard to river crossing or breaking of bulk, since barges which could reach Reading could also reach points much higher up the Thames, and no main road crossed the stream from north to south. Therefore while its river situation was fairly good from the point of view of access to the town from centres more important, it had no decided advantages over that of, say, Abingdon, and so far as the river was concerned, it was, by nature, a wayside halting place rather than a focus. This was *before* the great improvements in English water

*A paper read to the Geographical Association at the Spring Meetings, University College, Reading, 1925.

communications which were developed in the eighteenth and early nineteenth centuries. In *1723* the *Kennet* between Reading and Newbury was canalised, in *1810* the *Kennet and Avon Canal* between Newbury and Bristol was built. About *1772* great improvements in the navigation of the main *stream* between London and Oxford were initiated, followed in *1790* by the construction of the *Oxford Canal*, giving access to Birmingham and the Midlands, and a little later by the *Thames and Severn Canal*, connecting the Thames with Shropshire and South Wales. This gave Reading an advantageous position as the focus of four great water routes, from London, Bristol, Gloucester and Birmingham respectively. But these advantages came at a time, (*a*) when coal and steam as sources of power in industry were beginning to operate fully, thus tending to shift the centres of industry to the sources of cheap power, with resultant alteration of both the scale and means of production ; and, (*b*) somewhat later, when railway directors, alive to the competition which they must suffer from a system of waterways, set themselves to buy up the canals and put them out of use ; in this case the Kennet and Avon Canal, and the Berks and Wilts Canal. This canal development came therefore too late to affect the development of the town deeply and permanently. Nevertheless it did, for a time, make a deal of difference. *Coal*, previously brought by sea from London and then borne by barge up-river, was now obtained from Stafford, Shropshire, Wales, and Somerset, iron and hardware from Birmingham, stone from Bath, pottery from Staffordshire, and groceries from London. Timber, flour, malt, cheese, and wool were "exported." Twenty thousand sacks of flour were sent to London every year. Reading, according to a contemporary writing in 1814, experienced great benefit "*from the navigable canal to Bristol by which the produce of Ireland, and our West Indian settlements, instead of coming round a dangerous coast to London, and from thence to this town is brought here directly through the country, and by our grocers distributed among the neighbouring towns and villages at a lower price than by the London merchants, thus causing an influx of wealth to our traders which is felt all through the town.*" In 1835 of Reading's total trade 50,000 tons was estimated to be water-borne, only 100 tons road-borne. We have here a picture of a busy market town, attracting to itself for export, by reason of its favourable situation for commerce, all or practically all local supplies ; a town whose activities and wealth were in the hands of its traders, but not a town of any great industrial activity. This business activity is reflected in the importance of the fairs and markets at this period. In 1800, nearly *55,000 quarters* of cereals, realising more than *£120,000*, were sold in the Saturday corn-markets. Much of this must have come from a considerable distance. The Michaelmas *Cheese Fair* held in the Forbury reached its zenith during these years. In 1795 no less than 1,200 tons of cheese were pitched for sale in the Forbury—valued at not less than £60,000—in 1835,

850 tons, and in 1836, 700 tons—the last amount realising £40,000. Much money changed hands in the buying and selling of cattle—these coming even from Scotland and Normandy. In 1814, the Earl of Abingdon's steward was robbed by pickpockets of no less than £270, with which he had intended to buy grey horses for his master. These great fairs attracted large crowds into the town. At this time also " many respectable families were induced to build villas in or near Reading," partly because they would be only 6 or 7 hours by road from London, and partly because the general excellence of Reading's position then allowed them to live well and cheaply. Thus Reading's population grew considerably during this period. In 1801 it was but 9,421, in 1841 21,000—so that it had more than doubled in that time. It grew much more slowly in the next 30 years—it was 32,000 in 1871.

Reading as a road focus. Just as its water-connections with the outside world emphasise Reading's natural dependence on London to the east, and Bristol to the west, so do its road connections. Four roads connected it with London. The first, and much the most important, was the great Bath Road, coming through Maidenhead, and passing on through Newbury and Hungerford to Bristol. Its course through Reading was tortuous and difficult, owing to the difficulty of crossing the Kennet and getting on to the higher ground west of the town. The other roads from London (*a*) via Windsor Great Park, Winkfield, and Binfield, (*b*) via Windsor and Clewer, and (*c*) via Sunninghill, Bracknell, and Wokingham, met just outside the town and all four made a single entry—and a single exit. Practically then, one great east-west road traversed Reading, and one only. To the south a less important and less-used road ran through Basingstoke and Winchester to the South—to Southampton. No road ran to the north, at any rate not until near the end of the eighteenth century. The main Oxford-London road ran over the higher ground of South Oxon and crossed the Thames at Henley, for the great semi-circular bend taken by the Thames between Oxford and Henley made a road following this course too much of a détour—and by reason of the low-lying nature of much of the ground too difficult of construction. Newbury had a much better position, for it commanded (*a*) a north-south route between Southampton and Oxford and the North, and (*b*) the east-west route between London and Bristol. Hence the importance of Newbury in the Civil War, and the statement of the Parliamentary leaders to the garrison of Reading that they wanted, " not the town of Reading, but the people in it." With the construction of the Oxford Road things became better, but even now two facts stand out, (*a*) there is no road from Reading to the North except through Oxford, and (*b*) Newbury is a more important and more convenient road centre than Reading.

HERE again then, the conclusion is that until comparatively recently Reading was but a fare stage on the Great West road; its merit that it lay within five or six hours of London. Tradesmen could "travel to London in the morning, transact business, and return to Reading in the evening." Fish, fresh from the morning's market at Billingsgate, was daily cried in Reading at 2 o'clock.

Reading as a railway centre. The G.W.R. was opened to Reading in 1840, and completed as far as Bristol in the following year. In 1847 the line between Newbury and Reading was opened. In 1848 Reading was linked up via Basingstoke with the L. and S.W., and 1849 with the S.W. system again at Farnborough. Thus by 1850 five railway routes converged on Reading, and for the second time in its history it becomes a real focus. Here, too, at last, it is not merely a question of a temporary advantage, since later railway construction only emphasised its nodality. The town now commands the Thames valley in two directions, and the Kennet valley. Via Guildford the S.E., via Basingstoke the S. and near S.W., via Newbury or Didcot the far S.W. and Bristol, via Oxford the Severn Valley and Wales, the Midlands and the north—can all be reached direct, and by through trains. Only for E. Anglia is it really necessary to go through London. Few towns in the kingdom have a more favourable railway situation than this. London can be reached in 40 minutes, Bristol and Southampton in 1½ hours, Cardiff or Birmingham in just over 2 hours, Exeter, Portsmouth, or Bournemouth in 2½ hours, Swansea, Torquay, or Nottingham in 3 hours, Plymouth in 4 hours. These times, of course, refer to the fastest passenger traffic. Bulk goods traffic is, comparatively, expensive and slow. There is little competition with the railway—that is to say there has been little until the present decade.

The agricultural background. Berkshire is an agricultural county. Its most productive areas, however, lie far from Reading—in the rich pastures of the lower lands, and the fertile marl slopes, of the White Horse Vale. South-east and east of Reading lies a forest country, the Windsor forest of history, an area whose sandy or gravelly soils produce mainly pines and heaths respectively, whose clays are too heavy and difficult to work easily—a poor country agriculturally. North of the town, to the east of the Thames, lie the Chilterns, heath-clad where their summits are covered with the plateau gravels which abound; clothed in thick beech woods where clay forms, as it does over large areas, the surface soil. Their middle slopes are well cultivated. West of the Thames lie the Berkshire Downs, their summits broad rolling grasslands, the home of the Berkshire shepherd, or used as training grounds for horses. Here again the middle slopes are well cultivated. The valley bottoms would be fertile, but are low

and often waterlogged, fit only for cattle. Immediately west of the town lies an isolated area whose surface rocks are clay and gravel, agriculturally therefore again not a rich area. Although, therefore, Reading lies in an agricultural district, there is, in the aggregate, an enormous amount of land not very encouraging to the farmer. It is an area which will never produce a large surplus of foodstuffs, and which now, owing to the growth of the town itself, and its proximity to London, tends more and more to dairy farming. A regional survey of the district within a ten miles' radius of Reading market place would, I am sure, bring out some surprising figures in respect of (*a*) waste land (that is waste as regards food supply), (*b*) meadowland. The nature of the soil, too, and the low level of much of it, precludes the possibility of its ever having been very different from what it is at present. By comparison with Abingdon, or Wantage, or even Newbury, Reading is not an agricultural centre of very great importance. The two former are in the White Horse Vale—able to deal equally well with the great wheat areas of the middle slopes of the Downs, or the sheep which are the basis of the agriculture of that area. Newbury, with main roads converging on it from East Ilsley—the heart of the sheep country, from the Lambourn Valley, whose names give an adequate clue to the sources of its wealth, and from Hungerford—again right in the chalk country, and having in its neighbourhood the most fertile parts of the Kennet Valley, has a more favourable position than Reading. Agriculturally, then, Reading has surroundings which give it some importance, but it cannot compete with at least three other centres in the same county.

It is only when we come to the consideration of the rocks around Reading that we get any hint of industries which are really native to the district, and which have existed for centuries. The Reading Beds—a series of mottled clays—extend from Kintbury to Cookham, and at many places in that area are worked for bricks, tiles, and pottery. In the immediate neighbourhood of the town the clay is of excellent quality—naturally well suited to terra-cotta work—and easily worked. Tiles were made in Cookham in 1287, and Berkshire had a large share in the revival of brickmaking in the fourteenth century. Wargrave, Ruscombe, Hurst, and Shinfield church towers are all most probably built of bricks from the Reading Katesgrove kilns. Katesgrove was also mentioned in 1700, in 1704, and again in 1725, for the excellence of its bricks, while examples of its modern productions may be seen in the new Library of University College, and in the War Memorial Tower. Every map of the neighbourhood of the nineteenth century—particularly the first Ordnance Maps—emphasises the importance and the continuity of this industry. Reading bricks and tiles have an international reputation. They are of good shape, splendid colour, and almost everlasting wear. The present most important kilns are

(*a*) south of the Kennet in the Katesgrove and Whitley districts of the town, and (*b*) north of the Kennet in the Grovelands district. The former kilns have been working continuously for centuries in the same area, and have made a considerable difference to the topography of that part of Reading.

UNFORTUNATELY the rocks of Reading provide no other mineral resources, so that here we cannot look to Mother Earth to provide us with the raw material for industrial expansion. Nor have we any coal, at least not within working distance of the surface, so that our resources in power are very limited. We depend on other parts of England for what we want, and now that transport of articles in bulk is such a costly process, there is little prospect that industries depending upon cheap power to produce goods at a price enabling them to meet competition will be attracted to Reading. I suppose a certain amount of water power could be obtained from the weirs at Caversham, but it would not meet the demands which could already be made upon it, much less provide for expansion.

FINALLY, in this respect, comes the question of cheap labour. As we have already seen, Reading in 1840 had not many more than 20,000 inhabitants. Nor was the surrounding district very densely populated. Nevertheless the decline of agriculture, and the desire of the farm labourer for change and higher wages, provided unskilled workmen when they were required. The supply of these workmen was, however, limited. Two facts bear witness to this (*a*) the wide area from which workmen were drawn to the Biscuit Factory in the years of its expansion, particularly from Wiltshire and Oxfordshire (many Wiltshire families settled in Reading in the latter half of the nineteenth century), and (*b*) the careful way in which firms already established kept rivals out of the field, so that industries should not be bidding against each other for labour, and so bid themselves out of existence. This latter fact is significant.

THUS we come to this conclusion, that Reading was not predetermined by nature to be a busy industrial centre. Her position, in respect of communications, was too far inside the country, and too much at the mercy of caprice, and financiers. She was not blessed with any rich mineral endowment; had no source of cheap power within easy reach; only a moderately wealthy agricultural background; and a limited supply of labour. Of course, had the natural resources been there, labour would have come, but they were not. In such a place, if industries exist at all, they exist by reason of factors other than geographical, and must be of a particular type. The personnel at the head of these industries will be of supreme importance, and the historical circumstances in which they are founded will have a good

deal to do with their rise, or decline. The fact is that in spite of this rather pessimistic examination of her natural advantages, Reading *has* had, and still has, important industries.

II. The Cloth Industry.

Reading first came into prominence as a manufacturing area by reason of the cloth industry, of which, from the thirteenth to the seventeenth century it was a flourishing centre. It shared this prominence with other towns in the county, Newbury, Abingdon, Wantage, and Wallingford. Ashmole says of Berkshire that it was "a rich cloth-making county which supplied almost the whole nation with its wares," and another writer says of Abingdon that "the whole town stondyth by clothyng." The reasons for the existence of this industry were to be found (*a*) in the excellent supply of fine wool from the many sheep pastured on the chalk downs in the neighbourhood, and (*b*) in the proximity of Windsor and London where markets were to be found. Berkshire sheep, the Berkshire Notts, were evidently held in high regard for the quality of their wool. In 1454 they were ranked with others, 13th out of 44 breeds, and in 1547 Cotswold and Berkshire wools were described, after Leicester and Marche wools, as the highest priced in England. The trade was evidently looked upon with respect. Thomas Deloney in The Pleasant History of Thomas of Reading —a fictitious Reading clothier of the time of Henry I.—says "The art was held in high reputation both in respect of the great riches that thereby were gotten all through the fifteenth and sixteenth centuries, as also of the benefits it brought to the Commonwealth." The records of the town constantly bear witness to the prominent part clothiers and allied tradesmen played in its history. In 1553, Sir T. White, the son of a Reading clothier became Lord Mayor of London. In the reign of Queen Mary, in a list of five gilds or Companies, the Gild of Clothiers and Clothmakers occupies a prominent place—accounting for 91 out of 301 freemen enumerated, made up of Clothiers, Dyers, Weavers, Shearmen, Shuttlemakers, and Ash-burners. Queen Elizabeth encouraged the trade, and during her reign it was most prosperous. She built cottages on her property within the Abbey precincts for Flemings who were to improve here the art of weaving. The industry flourished still in the reign of James I., but by 1623 begins to show signs of decay, for in that year all clothiers were warned to appear at the Guildhall, and ordered to provide work for the poor people—spinners, carders, and others dependent upon them for their living. Later clothiers were enjoined to put to spinning in the town their ordinary coarse woof wool and not to send it into the country. Also every merchant dealing in white cloth was enjoined to make

for every 10 white, 1 coloured, "*for every coloured cloth sets four times more workmen for its manufacture.*" They complain, too, of the badness of coloured cloth sale, owing to competition from northern clothiers, "*whose cloth was shipped at all times at less customs.*" In 1624 they sent two of their number into the west country to view the manner of making their white cloth. The truth is, of course, that they were trying to stem the progress of an evolution which was due to causes altogether beyond their power to control. The west country had the water power for fulling mills which this area never did have; it had the power to import cheaply Irish and Spanish wools, to give a greater variety and a finer finish to their cloths; it had abundant supplies of Fuller's earth—for degreasing the wool—whereas Reading used an inferior kind of loamy clay, found in the Reading beds at Katesgrove; it had a splendid natural supply of teazels, grown in the rain-shadow of the Mendips, and used for raising a nap on the cloth. In other words, while its supply of raw material, in the shape of wool was not superior to that of Reading and Newbury, the West Country had locally other supplies which Reading did not possess, and a geographical position very far superior. Reading could not compete, and fell away. Two other causes helped this decay, (1) the Civil War, which disturbed the smooth course of trade in this area, and (2) the application of a subsidy. This came in the form of a legacy from John Kendrick, to build "*a strong house of brick*," and to provide a common stock (of money) "*to be employed and bestowed in trades of clothing, and in working of stuffs for dyeing.*" Unfortunately the greater part of the money was appropriated by members of the Corporation, or disposed of among their friends in the clothing trade, who were thus able to undersell their competitors. There was much discontent, and in 1631 one William Treacher was committed to the Compter Gaol for saying he wished the money paid for building the workhouse had been thrown into the river. He appears to have been a gentleman of sound common sense. Moreover, the cloth made in the Oracle was of poor quality and brought Reading into disrepute. The Archbishop of Canterbury, having enquired into the administration of this legacy reports "*The town makes fewer cloths than it did before this great stock was given into it. So the trade decays by the abuse of this money, and the King loseth in his customs—and this decay is near a third part.*" The history of the results of this early attempt at subsidising industry is at least interesting in the light of some modern tendencies.

THIS whole phase of the history of the woollen industry in England is interesting because it shows that industry as being in its early stages governed by local needs and conditions. It shows those conditions unable to respond to the demands of competition, and so the centre of gravity passes to the west country, for this area again in turn to

yield to the superior advantages of Yorkshire. As far as Reading is concerned, too, it shows the disadvantages under which it laboured by comparison with Abingdon, and to an even greater extent, Newbury, since it evidently occupied a position in the industry inferior to both.

W. F. MORRIS.

[PART III. of this Paper—CONTEMPORARY INDUSTRIES—will appear in the July issue of the REVIEW.]

THE INFLUENCE OF FOREIGN NATIONALITIES ON THE LIFE OF THE PEOPLE OF MERTHYR TYDFIL.

THE human race has always moved from place to place in the search for food. In the old days the movement was from the hills to the plains, but with the development of civilisation the quest was for the *means* with which to obtain food and the other essentials to life. Therefore the Industrial Revolution caused men to return to the hilly lands because it was here that coal was found. It was this discovery of coal, and its value for smelting iron, that laid the foundation for the growth of the borough of Merthyr Tydfil. The history of the local iron trade goes back to the sixteenth century, but it was not until 1760, when furnaces were opened at Dowlais, that a definite attempt was made to develop the mineral resources. Cyfarthfa works were opened in 1765, and reached their most prosperous period under the Crawshays, who came in 1791. Later the works at Penydarren and Plymouth were opened.

THE progress of these undertakings depended upon an adequate supply of labour, and we have now to discuss where this was drawn from :—

ORIGINALLY, those employed specially in the mines were Welsh.[1] Small numbers of English did come into the ironworks because of their association with the works' owners, but the Welsh language was predominant. The incoming of these English has been going on continually ; industrially, Wales and England form one unit. The Englishman is not looked upon as a foreigner. His language is used for all business intercourse. The figures of the 1921 census show that out of a total population of 80,116, 41,724 persons speak English only. People speaking Welsh and English numbered 29,196, while the number who could only converse in the Welsh tongue totalled 1,712. The supremacy of the English language is therefore undisputed. There is only one school where Welsh is the medium for teaching,[2] and even here a change has taken place. The two races are one, and the effect of intermarriage is making it in a still greater degree impossible to distinguish between the races.[3] The English are among the leaders in business, thought and learning in the borough.

THE Irish have also contributed very much to the life of this district, though they have had a more chequered local history than the English.

[1] Most of the men who work on the " face " are still Welsh. The English who work in mines come from the counties bordering on Wales. Most of the hauliers are English.

[2] Heolgerrig School, though the building of new Council houses there has brought in many English.

[3] The traditional aloofness of the Englishman comes to the surface unconsciously in his speaking. He refers with an implied contempt to certain doings " That's quite a *Welsh* fashion."

The present population numbers about 10,000, of whom more than 5,000 are in Dowlais, and more than 4,000 in Merthyr. It would be difficult to say when they first came over here; it was, however, subsequent upon the opening of the works. Famines at various times compelled them to migrate, and since the famines of 1845-48 [4] there has been a continuous stream of Irish immigrants to this country.[5] Many took up the work on the land and gradually drifted into industrial life. These men, who came chiefly from southern Ireland (the counties of Cork, Kerry and Waterford) were big muscular fellows who did not know their full industrial worth. They were employed on such poorly paid jobs as the unloading of iron ore and quarrying. Even if they desired posts in the works or underground, local antipathy kept them where they were. This animosity became very pronounced during the Fenian disturbances of 1867. Largely, however, the cause of the feud was religious. Welsh nonconformity looked on Anglicanism unfavourably; their attitude towards a race composed mainly of Roman Catholics can therefore be understood. The Phœnix Park murders in Dublin brought matters to a climax.[6] The Irish population in Tredegar had to flee from the town in the early autumn of 1882, many fled to Dowlais, but after about three months they were allowed to return.[7] Another time of strife arose in 1880 during a Parliamentary election. Henry Richard was the Liberal Candidate and Sir W. T. Lewis the Conservative. The Irish voted for the Conservative, the Welsh sympathies were Liberal, so feeling ran very high. Saturday nights saw many fights between drunken Irish and Welsh folk. This state of affairs has now disappeared. The Irish are now able to enter into all local activities in industry, business and social life. Their industrial salvation is due to the growth of trades unionism; education has also contributed to this better feeling. Intermarriage between the Welsh and Irish is more in evidence now, too, though their allegiance to the Roman Catholic faith is as strong as ever.[8] They have always

[4] There has been no great colony coming into the district at the same time; neither is there any record of Irishmen being invited over by the owners of the works.

[5] Rack renting, no fixity of tenure, and no claim to value of improvements made in the land and building by the tenants also contributed to this emigration from Ireland.

[6] The Irish at this time had to barricade their houses with furniture, &c. A popular comic song of the time was parodied and became :—

"Tramp, tramp, tramp, the boys are marching,
Who comes knocking at the door?
'Tis the Fenians with their flags,
But we'll tear them all to rags
And they'll never come to Dowlais any more."

[7] The immediate cause of this outburst of feeling was the attack of a drunken Irishwoman on a few members of the Salvation Army who were holding a meeting in the Georgetown district of Tredegar.

[8] Though there are some Irish Protestants here their numbers are negligible. The Roman Catholic Church at Dowlais (St. Illtyd's) was erected in 1846 and St. Mary's R.C. Church, Merthyr, a little later. There must have been a fairly strong Irish section here even then, to justify the erection of churches.

played a big part in elections. If the Irish vote is unanimous, as it often has been, they virtually decide closely contested elections. The fact that they have never lived in distinct colonies has helped to make it more possible for them to settle down with the Welsh.

THE Jews are an important element in local life. They have come chiefly from Poland and the Baltic States of Russia. Though many have come from Austria, Hungary and Roumania they were only temporary settlers. Their exodus from Poland and Russia was caused by the Czarist persecutions of the Jews (the " pogroms "). Many came over during the years 1896 and 1897. The Roumanian Jews were skilled industrial workers and found employment in the steel works. These[9] left for the United States and Canada in 1896 and 1897 under a scheme organised by the Jewish Board of Guardians. The " Bloody Sunday " (January 22nd, 1905) Massacres of Jews in Russia caused another flight abroad and many of them came to this district.[10] They still number their population in families and the books of the Synagogue [11] show that there are now one hundred families here. The number of Jews who came from Russia and Poland can be roughly determined by the last census figures. People who stated they were of Russian [12] birth numbered 101 and there are 48 Poles [13] here. The Jews have never been embroiled in great conflicts with the Welsh. They have been law-abiding citizens and give great assistance to charities and all public causes. Their contribution to local life exceeds what one would expect from a small community. They own much property and are, in proportion to their numbers, the largest ratepayers in the borough. Most are engaged in business and commercial life. All the pawnbrokers [14] here are Jews. Although they have never lived in colonies they are strongly united and have always helped those in distress so that no Jew has ever become a charge upon the local Guardians. Their local life reveals them as a race imbued with high ideals, who value education very highly and do all in their power to broaden the minds of the masses. This fact is proved by the number of Jewish children who go to our secondary schools and proceed to the Universities.

THE Spaniards born in Spain total 176 and all are aliens. These all reside in Dowlais and in contrast to the other immigrants they are very clannish, being found together in a colony comprised of Erin's

[9] It is stated that about 500 left the locality at this time.

[10] There were Jews living here before; the date of their settling here cannot be definitely ascertained, but the fact that there are old established Jewish businesses here is sufficient evidence. These are looked upon as Welsh-Jews.

[11] This Synagogue was built over half a century ago.

[12] Russians—35 are naturalised.

[13] Poles—20 are naturalised.

[14] The jewellery trade and furnishing trade is largely in their hands.

Row, Cross Street and Brecon Street, Dowlais, though this colony is not as distinct as it was. They come chiefly from the Basque Province of Spain,[15] where there are many ironworks. During the time of the Boer War, a works manager [16] invited a number to Dowlais because labour was short; this was in the Autumn of 1899. These were housed in different parts of the works. Some slept in the Big Mill, and others found shelter in a building in the Ivor Works. A batch who came over in the Autumn of 1900 were accommodated in a similar manner, until houses called Alfonzo Street, were erected in Penywern. All the men were skilled workmen [17] but were paid less wages than other skilled tradesmen. As a result there were differences between them and the Welsh, who thought they would lose their posts. The growth of trades unionism stopped the feud, and the result is that the Spaniards are ardent Trade Unionists.[18] In spite of this it seems that they will never be absorbed into the social life of the district as are the Jews. Fears of oppression have made them embittered. The glamour of the past glory of Spain has blinded them to the realities of the present. Even the freedom of this country does not satisfy them; they feel that if they become naturalised they will in some degree be fettered—they confuse liberty and licence; temperamentally vivacious, the effect of past oppression has made them desire lawlessness. In their conversation they convey the idea that the whole world is up against them; they think that they are here on sufferance. Officially, members of the Roman Catholic Church, they are frankly irreligious. There are few old Spaniards here; most of the first comers have left for Canada, France and Belgium.[19] In spite of the surrounding squalor, the cleanliness of most houses is remarkable. Although intermarriage does take place, the value of the Spaniards to the community is negligible.[20] The fact that they are a migratory population too, prevents their social influence being considerable.

Other European races represented in the district are French and Italians. The people of French birth number 16. There is only one French family, the others are French wives of English soldiers. There are 52 Italians here, of whom 20 are naturalised. They provide an interesting example of a body of people who come not to participate

[15] The towns are Bilbao and Santander on the south-eastern corner of the Bay of Biscay.

[16] He was a man by the name of Martin.

[17] Fitters and "roughers" in the mills.

[18] Trades Unionism and the Labour Party are linked closely together with them; some houses visited contained an "art gallery" of successful and unsuccessful Labour candidates.

[19] Very few return to Spain: they left the country in many cases to evade military service: if they returned they might have to pay the price for their evasion.

[20] Although few are allowed to vote, they might perhaps exert a small political influence.

in industry but to cater in the comestible luxuries of the working people. They almost monopolise the fish-and-chip and ice-cream business. In passing, a similar example may be referred to. The Scotch people here have established what is known as the travelling draper business.[21] For many years this business was entirely in their hands. Having now an idea of the various races found in the borough, it would be wise to consider their total effect. There has been an influx of people at first, from the adjacent counties and then from further afield. Will this population be permanent? The coal deposits will be exhausted some day.[22] Unless the fuel can be brought to the works at a cheap rate they must close. Some new source of energy which can be transferred readily and cheaply from one place to another will have to be tapped, if a population of the present size is to be supported in Merthyr. There is such a thing as geographical inertia where industries cling to a place long after the factors that called them into being have disappeared. This is therefore a question that cannot be answered fully.

This influx has made the area quasi-cosmopolitan, but can it be considered as a form of colonisation? The absorption of other peoples into the early French race has made France what she is to-day. The same thing applied to the settling of the different Nordic tribes in Britain. A new race was formed with new characteristics which added strength to the whole. If the incomers stay and "colonise" an industrial area certain conditions will militate against their complete absorption (*a*) religion, (*b*) nationality (not race). Although civilisation is always evolving new types the present generation will not see the type evolved under the ægis of the industrial effect of the mixing of nationalities. Here, again, it is impossible to judge fully. Each age creates its own demands. Whether these demands will justify the existence of Merthyr remains to be seen.

J. Ronald Williams.

[21] Called locally, "packies" are packmen.

[22] Some local pits have already closed and most of the miners have migrated.

FORTUNE AS A SOCIOLOGICAL FACTOR.

SOCIAL fortune I would describe, I hope adequately for present purposes, as contact with conditions tending to bring to the particular social entity immediate success or failure that is more or less independent of and therefore does not correspond to its true character and quality. And I would suggest that all such lack of correspondence tends in a general way to be made good by the subsequent course of events. To give a few instances. There was, I suppose, a large balance of good fortune in the Roman conquest of the Mediterranean world even despite the fact that in Rome's most critical struggle a family of extraordinary military aptitude arose to lead the forces of her unmilitary rival. But when the conquest was complete, where was the conquering people itself? Unequal, largely by reason of the element of good luck in its too easy and rapid success, to the difficulties and temptations of the situation that supervened thereon, it was rapidly crumbling away, *gentes* and *plebs* alike, while others, Roman in name and culture but by descent chiefly aliens from the conquered lands and even from the unconquered regions beyond, took over the vacant seats and the great inheritance. With Athens, on the other hand, we may perhaps find in the considerable element of ill luck that contributed substantially to her downfall in the Peloponnesian War some explanation of her speedy, if partial, recovery, and even of her enduring cultural ascendancy. To turn now to modern times, a signal example of the operation of this law of compensation may be found in the disasters that have befallen the Russian Empire, a social entity or rather conglomeration the material power and political influence of which during the nineteenth century were so much out of accord with the general primitiveness and inefficiency of its culture and institutions. Much good fortune, too, has attended the formation and growth alike of the United States and of the British Empire, the latter founded—has it not been said?—in a fit of absent mind, and the fact of this good fortune, while not warranting any fatalistic despondency, might exercise a useful chastening influence upon immoderate ambitions.

I SHOULD say, then, respecting fortune as an element in world-affairs, that its influence has perhaps been both overrated and misconceived through failure to take due account of subsequent reactions tending to neutralise its immediate results. The same holds, too, of all world-success or world-failure that may be considered so far fortunate or otherwise as being unrelated or only partially related to desert. For instance, a nation by unduly specialising in military matters may achieve military success on so considerable a scale as to place it in a position of supremacy in the international system to which it belongs; but this by creating a new situation and new problems with which its

militaristic culture, especially as hardened and intensified by success, is unable to cope, may involve it ultimately in disaster and discomfiture. Of course the most truly undeserved social success is that achieved through morally indefensible action, and it has the supreme disadvantage of unsteadying the grip of the particular social entity upon all moral issues.

THE objection might perhaps be made that all social success and failure are really due to fortune, the most flourishing nation, for instance, being the nation that has enjoyed the most favourable, that is, not the easiest but the most fully and harmoniously moulding and educating environment. This is a valid conception of fortune, though in sociology fortune, I think, is best understood as above, that is, as the presence of conditions bringing social success or failure independently of social excellences or defects. Concerning the view that all could be explained, did we know enough, in terms of entity and environment, physical and psychical, this may perhaps be held to include a large measure of truth even by those who cannot accept the theory of determinism. For in the main the qualities that tell in the career of nations and of other secular societies and organisations may be the racial and cultural qualities that are explicable in connexion with the environment, while the most essentially personal and self-determined qualities may not usually in themselves be sociological factors of the first importance.

I SHOULD like, in conclusion, briefly to relate the present note to one published in Vol. XVII., No. 1 of the SOCIOLOGICAL REVIEW. In that note I tried to consider an aspect of value regarded as transcending the spatial and temporal determinations of relative science. The present note, on the other hand, is concerned with values as actualised in time and space, and so as a proper subject for scientific inquiry.

P. J. HUGHESDON.

OBITUARY:

PROFESSOR JAMES MAVOR: 1854—1925.

PROF. JAMES MAVOR, late head of the School of Economics in the University of Toronto, was a son of the manse, educated at Glasgow, and there especially under Lord Kelvin, who had such hopes of him that, thirty years after, he deplored that he had turned away from electricity, in which indeed two of his brothers have reached eminence. After an experience of business and of varied travel, inspired by keen outlook, active journalism, and editorships, of *Industries* and of *Scottish Art Review*, he became Professor of Economics in St. Mungo's College, Glasgow, in 1888; and in 1892 he succeeded Prof. Ashley at Toronto, his predecessor vouching for him as already among the most distinguished of political economists, and one of our few special authorities on Poor Relief and Railway Administration. He devoted his first years in his adopted country to a thorough survey, so that in 1897 he edited a Handbook of Canada. In the following year he established 7,000 Russian Doukhobor emigrants in Canada; thereafter also becoming a general authority on the general immigration problem from various countries; though still taking kindly care of his Russian flock through all their difficulties. In 1900 a fresh European investigation on Workmen's Compensation Acts brought substantial fruit in legislation; and his other Canadian reports and studies dealt with large questions, as of taxation, railways, &c., and culminated in his Economic Survey of Canada in 1914. Yet in the same year he brought out his Economic History of Russia.

HE left his Toronto School of Economics not only one of the largest, but probably also the most comprehensive and fully Sociological in the world; and not only with its library enriched by a long and varied range of sterling monographs and surveys from his pen, but with a start of young economic workers in unusual numbers. Beyond these immediate tasks, few men have lived more fully in touch with the general movement of the world in its innumberable fields; and in all with a wealth of freshness and versatility, expressed not only in his command of his great library, but in life-contacts varied as those of a great journalist, a world-traveller, and a citizen in one.

HE was at once critically and constructively interested in all kinds of human life and labour. Thus in the Paris Exhibition of 1900 he was easily first amongst all its many expert volunteer guides; fascinating his audiences alike among all kinds of machinery, as from simplest appliances to electrical refinements, or among textiles, pottery, metal-work or what not; yet no less was he at home in appreciative and interpretative guidance through its vast galleries of paintings, and even amid its varied wealth of sculpture. Here in short was for our times a living reminder of the Admirable Crichton —"*In omnis studiis admirabilis*"; and like him, too, he was full of the delight of battle with his peers, in discussions without number, often indeed continued till the morning. He was thus all things to all men, ready alike for chess-champions, railway-kings and financiers, for art-connoisseurs or politicians, yet also in his element in initiating his best students into whichever of his many fields they shared interest in. They will always remember him; and others will still come to know him from his vivid autobiography, "My Windows on the Street of the World"; though even this hardly does justice to his vast attainments, his many activities; for here assuredly was one of the most widely versatile and fully accomplished of modern minds.

He had great plans for the present winter, which was to have been spent with the writer at Montpellier. But what has proved his last effort, since too severely overstraining his hard-worked heart, is his recent re-writing of his great work on Russia, to be published in spring, indeed with another volume as well.

ARE there still any classical economists? Are they not all more or less "modernists" nowadays, i.e., adjusting their traditionally specialised studies to the widening outlooks of sociology? Here, at any rate, as his books and teaching have increasingly shown, was a veritable leader in this change; indeed one of the very foremost. It was thus with his entire good-will that the direction of his well-developed and ably-staffed university department has passed to Prof. MacIvor, whose writings have from the first been constructively sociological: and thus again we may rest assured that Mavor's best work and widest influence will be continued and diffused.

P. G.

BOOK REVIEWS.

EDUCATION AS A SOCIAL FUNCTION: The Foundations of Education, a survey of Principles and Projects by J. J. Findlay, Sarah Fielden Professor of Education in the University of Manchester. Vol. I., The Aims and Organisation of Education. University of London Press, 1925, pp. XI., 274. 8s. 6d. net.

Prof. Findlay is known to Sociological students apart from his special work on Education as the author of an original and suggestive book on Sociology, and they will not therefore be surprised that he approaches the subject of Education, not merely as a specialist but from a broader point of view. Nor will they be surprised, though they will be gratified by the exceptional occurrence, that the point of view taken is neither that of biology nor of psychology but the much rarer one of sociology proper in which biology and psychology are given each its due meed of consideration, but are not allowed to dominate the field. As to the biological side, Prof. Findlay very sensibly points out that the function of the teacher is to take the human material as it comes. He does not and cannot create native ability or character. There are limits in the inherited powers of the individual. Nevertheless " all the institutions of culture since man began to realise himself have been based upon the inner conviction that the individual can not only maintain himself in health and sanity, but can be altered, amended, can grow in sentiments, tastes, aspirations: apart from some facts of this kind . . . . the teacher's intercourse with his pupil becomes repulsive."

The solution is in the first place that what we inherit is but a germ, the development of which differs widely in accordance with the stimuli that act upon it, but in the second place, and more particularly that the individual is something incompletely determined in himself, that his actual life and developed character is the union of what he brings to society with what society brings to him. The ordinary biological mode of stating this relation is inadequate. The individual is not like an organism growing up in society as an environment. The social milieu enters into him and fuses with his interested tendencies, so that one and the same tendency, e.g., the desire for respect may have the most opposite results according as respect is won by useful or injurious activities. It is for the teacher, says Prof. Findlay, to make the adaptation between the child and the requirements of his social milieu, to bring to " living past " to bear upon the new member of society, and this, he justly contends, is a task to be repeated for every new generation, and is quite, apart from any question of progress, a necessary function of a legitimate conservatism.

In the light of this method of treatment the discouragement which some teachers may have found in some recent psychological work is much alleviated. Prof. Findlay speaks with judgment and moderation of Intelligence tests. He shows that neither the tests nor the work of Galton and all his school gives any support to such a caste-like division of society as some appear to conceive. He remarks very justly that intelligence tests as hitherto devised are one-sided, but he by no means rejects help from this quarter. If there

are intrinsic limits to the capacity of the individual it is best that they should be known. It is only disastrous if they are prematurely laid down on insufficient evidence, for then the pessimistic prophecy tends to fulfil itself. Education cannot put into the child the capacity which is not there, but it can stimulate, or can most unhappily repress the capacities that are there. Again, education cannot directly improve the race. Its relation to Eugenics Prof. Findlay sees in the provision of a wholesome atmosphere in sexual matters, and the cultivation of a sense of what is finest in marriage and parenthood, and this he thinks would have a sub-conscious effect in influencing choice. The knowledge of sub-conscious influencies may be rationally used as long as we do not allow the lights that we are getting from morbid psychology so to dazzle us that we believe all minds to be morbid, all apparent reason to be irrational, all purposive control a mere mask for unavowed and irrational instincts. From first to last our education work would be valueless if man could not by taking thought make himself something other than he is apart from such thought. That one may take it is Prof. Findlay's central thesis, and, that given, all that biology can tell us of the conditions of heredity or morbid psychology of the workings of the irrational become instruments in the hands of the educator as of the philosophical statesman.

As to the ideals of education Prof. Findlay sees that they must inevitably vary with the general philosophy of the teacher. The devout Roman Catholic must have one view, the Secularist another, and we must not so frame our definitions as to deny the title of teacher to any sincere effort. Prof. Findlay has naturally a good deal to say of the effect of these conflicts of ideal on the public organisation of education. But as a resolute and candid thinker he does not shirk the duty of propounding his own ideal, and puts it ultimately in that dual harmony of the inner man within himself, and of the individual man with the "Universal" which derives ultimately from Plato, but which constantly requires to be defined anew.

"A successful, healthy development of the subject, an all-round development, incorporates every kind of good that man can attain, in an increasing apprehension of relations which we may call godlike or divine or infinite, since other language fails us to portray the situation."

WITH this generous and philosophical view of education we might anticipate that Prof. Findlay would treat it as a process continuing through life, and as in fact coterminous with the constructive side of life expansion in general. But though Prof. Findlay recognises this to be a valid sense of the term he wisely, as I think, limits his own appointed task to education in the more ordinary sense of an organised effort to stimulate and guide those who need or ask for stimulus and guidance. I am less sure that he is right in defining education as provision made by normal adults for minors and defectives. He, of course, recognises what is being done for adult education in the wider sense, and I imagine that he, like others among us, would look forward to an extended scope for this movement. Apart from any other consideration the growing complexity of the human problem and the many-sided divisions of intellectual labour make it desirable that as many of us as possible should continue to educate one another not only indirectly by the publication of our results but in more systematic form, as long as our receptive faculties last. But in pressing this on Prof. Findlay I have no doubt that I am forcing an open door.

L. T. HOBHOUSE.

MY APPRENTICESHIP: by Beatrice Webb. Longmans. 1926. 21s. n. 459 + xiv. pp.

MRS. Webb's extraordinarily interesting book might well be reviewed from any one of three points of view; in the first place, as a brilliantly clever specimen of the society memoir, describing London life during a number of eventful years, and abounding in good stories, sketches of character and personality. Or, secondly, as a remarkable diary of inner experience, the questings of a soul in a time of spiritual crisis and tribulation. Or, again, it might be reviewed as a social document, shewing the reactions of a mind to its environment, the observation having a special interest owing to the width and range of the observer's experience, and to an unusual degree of ability and training for such work. In the pages of the SOCIOLOGICAL REVIEW it seems fitting to give prominence to this third aspect.

WE may ask, first, what did family and class do for Beatrice Potter? On both sides her ancestry was from among those stirring and able men, yeomen farmers and small manufacturers, to whom the industrial revolution gave a chance of rising to affluence and consideration. Her father was a wealthy man of great ability, and evidently of special charm of character, and his many daughters were able to choose their friends among the best that London society could offer. The resulting position was, for those days at least, one of unusual freedom. Education appears to have been unsystematic, which Mrs. Webb regrets, no doubt sincerely, but the dispassionate reader is inclined to wonder whether her special type of ability would have developed as well in more conventional academic lines. The Misses Potter could have all the books they needed, on any subject, they were accustomed to hear discussed, and themselves to discuss, all sorts of scientific, political and moral questions, and they could listen to the best of talk. The absence of traditional restrictions in such a family is curious. With several homes, they had no strong local attachments to any; they knew not the distinctive mental atmosphere characteristic of each of the older professions; although religiously minded, they were members of no church. Human intercourse was with an "endless series of human beings, unrelated one to the other, and only casually connected with the family group" . . . . . "business men of all sorts and degrees came and went; intellectuals of all schools of thought, religious, scientific, and literary, came and went." (p. 41.) Compare this varied and stimulating society with the narrow mental life then led by many girls growing up in more conservative sets or classes, hedged about with restrictions, paralysed with the fear of the unusual, the dread of the "*qu'en dira-t-on?*" There is a curious irony in the fact that this favoured child of capitalism, who had been given leisure and opportunity to stand aside and look, think for herself, became so keen and stern a critic of the system which incidentally had done so much for *her*. Wealth, she saw, was pursued mainly for the sake of power. Wealth enabled you to "give orders, not to obey them." "Labour" was regarded by the wealthy as an abstraction, a natural force to be utilised. For the women of the wealthy class, on the other hand, and for some of the men, pleasure was the business of life, and life an endless round of amusement.

MRS. WEBB's description of London and country house society leads on to her account of the "awakening social consciousness" of the 'eighties and 'nineties. There came in those years what Mrs. Webb calls "the new ferment," "a new consciousness of sin among men of intellect and men of property."* This was not a personal feeling, but a collective, or class

*p. 179

consciousness, a growing uneasiness, induced by the growing awareness of widespread destitution and evil conditions of work existing side by side with enormous wealth. Many readers of this book, or those of them old enough to remember, will be able to recall this movement of social compunction and the conviction to which it led, that mere alms-giving and charity were not enough, were indeed irrelevant to social misery. Knowledge was needed. Miss Potter found opportunities for study and investigation with Miss Octavia Hill, Canon and Mrs. Barnett, still more however in the wider and finely planned work of Charles Booth, and in her own work on co-operation. Thus she was led, by means of such study, and partly also through a personal influence, pleasantly indicated in the later pages, to socialistic ideals, a development that caused sad grief to her friend Herbert Spencer in his old age. The account of Spencer's character and personality, by the way, is perhaps the best bit of work in the book, though not, to the present reviewer, quite the most interesting. There is a real pathos in the aged philosopher's loss of his disciple, though not of her affection and tendance. But his social philosophy was passing, and his pupil was destined to find a spiritual home, as well as an unusually happy and successful domestic one, with ideals and associations that were none of his.

In looking back over Mrs. Webb's spacious and well-filled pages one impression emerges above others, and that is, that the book, whether so intended or not, is in itself evidence of an organic unity of society, however much obscured. For when all has been said, and, we think, truly said, about the pursuit of wealth for power, the pursuit of pleasure as a business, the inhuman view of labour as a mere force to be used, the fact remains that it was from within the very class thus arraigned that this movement of social compunction arose. There is evidence here, surely, of the working of an instinct of social self-preservation, of a mental and spiritual vitality in the race, able to transcend the bonds of class and prejudice.

As the self-respecting reviewer must always find something to criticise, we suggest that the word " inversely " is needed in a sentence near the middle of page 52, thus : " conventional requirements . . . . . graded with almost meticulous exactitude *inversely* to the degree," &c., &c. We also think the portrait on the " jacket " not quite worthy either of artist or subject.

B. L. H.

LAW AND POLITICS : (System der philosophischen Rechtslehre und Politik von Leonard Nelson, Leipzig. 1924. m.16.)

Dr. Leonard Nelson is professor of philosophy at Göttingen. He is the leader of a movement for the training of educated young people for public life, and has published a number of pamphlets setting forth the ideals and the methods of the movement under the title of " Oeffentliches Leben " (Public Life). He is issuing three volumes of *Lectures on the Foundations of Ethics*. The first of these volumes was entitled *The Critique of the Practical Reason* , the second volume has not yet appeared ; and the volume before us is intended to be the third in the series. In the previous volume, after a searching analysis, the following conclusions were reached : " The criterion of duty must include a rule for the restraint of our purposes by the interests of others," and this restraint is necessary only when there is a collision of interests (p. 130). Each person as the subject of interests has a *worthiness* (Würde) and the moral law can be expressed in the words : " Each person has as such the same worthiness as every other " (p. 132). The corresponding maxims for conduct are the following : " Never so act that

you could not also assent to your way of acting, if the interests of those affected by it were also your own" (p. 133). "You should assent to the disregard of your interests, as you have shown the same towards others" (p. 136). Accordingly justice in this positive and this negative form is the sole principle of all duties; the law of right is included as its content in the command of duty, and there is only one moral law; "*act rightly*" (p. 221). It is on the basis of ethics, as expounded in this first volume, that the philosophy of right or law and politics in the third volume is developed.

THE first one hundred and twenty-four pages expound the doctrine of right, and the remainder of the volume (pp. 125—608) deals with politics. There is a very full table of contents, and an exhaustive index of seventy pages. As regards arrangement the volume is admirable to facilitate its use. In the Introduction of the first part, the task and the divisions of the philosophical doctrine of right are indicated. The possible theories of right are discussed; juridical empiricism, mysticism, æstheticism, and logicism, are rejected in favour of criticism, the characteristics of which are: (1) it is based on an *a priori* principle; (2) this principle is reached by one's own reflexion; (3) by such reflexion the principle of right can be made clear; (4) this principle cannot be reached by merely logical analysis, but must be attained by a metaphysical synthesis, of which the practical reason is capable (pp. 22—24). This doctrine is therefore to be regarded as practical metaphysics; and yet as human action is within nature it must also be a practical doctrine of nature. The *Formal* can be distinguished from the *Material* doctrine; the first starts from the form of the law of right alone with full abstraction of its contents; the second takes full account of that content, and to each of these a section of this part of the volume is assigned. The fundamental principle of the *formal doctrine* is that there is a law of right; the formulæ to be subsumed under this principle are the necessity of communication of thoughts by speech, the necessity of a definite division of property, the possibility of a lack of moral insight, and the possibility of the lack of goodwill. Accordingly the postulates are the right of speech, the right of property, the knowledge of the law by all subject to it, and the means of enforcing the law. The third of these postulates may be expressed in the words: "Society for the adjustment of all conflicts about right should subject itself to a public law and a public court of justice deciding in accordance with this law" (p. 78). The fourth may be formulated thus: "Society should subject itself to a compulsion which will exclude intentional violations of the law" (p. 79).

THE supreme principle of the material doctrine is that *justice is right*, that means, personal equality; the exclusion of every merely individual advantage (p. 85). This law is *synthetic*, because we in it set aside the differences of persons; it is *formal* because it does not define the matter to which it is to be applied; it is *limiting*, because it excludes only those actions which violate the principle of equality. Guided by the formulæ for subsumption of the previous section, we reach the following postulates of the material doctrine of rights. The first postulate is that "rational being should regulate the form of their intercourse by contracts" (p. 94). The second runs: "Society should submit itself to a positive law, by which the division of property in it will be regulated" (p. 97). The third requires that "in society by the public law property should be divided in accordance with the principle of personal equality" (p. 98). The fourth can be stated thus: "Public law should be conjoined with a penal law, the principle of which is the right of retribution" (p. 104). The possibility of so-called *natural rights* is set aside, and one ideal as the one right is described in the words: "All rational beings have the right to the equal external possibility of attaining

self-determination" (p. 118); that is, to spiritual freedom, and to protection against any arbitrary guardianship. The only natural right which can be asserted is accordingly the following: "By the public law the equal external possibility to attain to culture is to be secured to all, and the spiritual freedom of each is to be protected against arbitrary guardianship" (p. 122). This part of the book seems to me to be a very successful treatment of the subject, with which I find myself in so substantial agreement, that I offer no further comment.

WITH the second part of the volume it will not be possible, nor is it necessary, to deal in such detail. "*Political*, in the most general meaning of the word," is defined as "all that which has as its aim a particular organisation of the outward form of society" (p. 125). Politics is both an art and a science, concerned with the State and government. Society means a community of human beings, determined by some common practical object. The State is such a form of society, as is determined by one will provided with the power of compulsion. When this will is directed to the Right it is a legal State (Rechtsstaat). When a number of States are so determined we have an alliance of States. There are an empirical and a philosophical doctrine of the State, and also a theorerical and a practical. Politics may be distinguished as inner and outer, home and foreign, and as *formal*, applying only the political ideal and *material*, taking account of political interests.

IN the formal politics of the State the major premiss is "there is an ideal of rights" (p. 157); the minor is that in nature all occurrences are determined by natural causality, that is, by physical force. The conclusion is that "the condition of right can be realised only in this way that a will, which commands a force superior to all other forces in the society, makes its realisation an object" (p. 159). The development of this supreme principle in detail must here be passed over; all the theoretical problems that may arise seem to be dealt with.

IN the section on the *material politics of the State* the principle is applied in detail to the actual conditions of society, to legislation regarding contracts, possession of property, rights of guardianship. As the distributive justice deals with the distribution of the material and the cultural goods, and the retributive justice with the penalties to be imposed for violation of law, the spheres of politics are described as *social* or economic, as *cultural* or educational, and as *penal*. "The condition of welfare to attain which in society according to the principle of *social politics* an equal opportunity is to be secured for each man must be defined as that measure of possession, which is necessary and adequate to make it possible for the individual to reach the highest stage of culture, which he would reach under adequate, favourable, outward conditions" (p. 363). With this standard existing social conditions and theories are discussed. "The principle of *cultural politics* is defined by the task to secure for all the equal possibility of culture, in so far as that does not depend on the natural capacity for culture on the one hand and the distribution of property on the other" (p. 414). The application of this principle in the school, the high school, and the church follows. In this connection intellectual and spiritual freedom are insisted on, and consequently the independence of the teacher in school and church. As to the relation of Church and State the author assents to the idea, "that the power of the State should stand in the service of a higher ideal and accordingly in so far should not also rule the Church," but this admission does not involve that "a spiritual despotism should gain the dominion over the State," "but it is obvious that to the State belongs the ordering of the legal relations in the Church" (p. 491). In criminal politics there is the double purpose, the punishment and the prevention of crime; in the execution of the law justice itself may sometimes demand that the prerogative of mercy be exercised.

TURNING from *internal* to *external* politics or to the politics of States, the author lays down as the major premiss : " There is an ideal of a condition of right for the society of States " (p. 509). The relation of States, so runs the minor premiss, is a relation either of *force*, or of *contract ;* but the latter involves some *government* to which the States submit. The conclusion is that " the establishment of the alliance of States is just as necessary a task of right as that of the State, and in this the individual States participate as members just as in the single State individual persons " (p. 511). While there is this analogy between the membership in a State and the membership of States, there are limits to the analogy, which must not be ignored when that is affirmed. In this connection the author discusses a number of questions which have an urgent interest to-day ; and his treatment of those is marked by the idealism, to which the best minds are moving.* He maintains the impossibility of a limitation and division of the power of the alliance, for " an association of States, in which the force has not become centralised, can always be regarded as only the forerunner of an alliance of States, such as is postulated by the ideal of right in the politics of States " (p. 538). He also sets aside the principle that States can have equal representation, and shows how alone the stability of the alliance of States can be maintained. " The only effective protection of the weaker States to preserve them in the community of States from exploitation by the Great Powers exercising predominence is the responsibility, which falls on these by the recognition of their superior power, and the confirmation of the consciousness of their obligation by the moral force of public opinion " (p. 543).

IN the last section the author discusses the politics of party. " The problem of the possibility of the application of the postulates of the philosophy of the State " can be solved only if " a sufficiently powerful party within the society accepts this purpose." Only as a party ideal can the political ideal become practical politics (p. 557). The possibility of the realisation of the political ideal, in view of all the obstacles to it, depends on the measure in which reason can be made effective. The belief, not in force nor in authority as alone practical, but in reason, supplies the motive and power to make the seemingly impossible possible. Not by the moral training of the individual alone can this ideal of right be realised although it is one of the conditions of realisation ; but within the society must be developed a will determined by an adequate discernment of the ideal ; and accordingly a party of the ideal is necessary.

I HAVE done scant justice in this bare outline to the wealth of the content of this interesting and important volume. The occasional quotations are but a scanty indication of the knowledge and the wisdom displayed by the author. I find myself in so general accord with him that I prefer to be his interpretator rather than his critic. Before and during the war Germany was identified with political theories, challenging the common conscience, and it is a pleasant duty to call the attention of English readers to a treatment of the subject, which bases politics on ethics, the State on conscience. Should such an ideal become general in Europe, the tragedy of the last war would not be repeated and peace would be assured. If the movement which the author leads can make his ideas influential in Germany, the volume will have a practical significance as well as theoretical value as the programme of educated youth there.

ALFRED E. GARVIE, M.A., D.D.

*It is worth mentioning that even before the War the author advocated the formation of such an alliance, and that at a time when the League of Nations was anathema in Germany, he pleaded for the entry of his country.

BRITISH NORTH BORNEO: an Account of its History, Resources and Native Tribes: by Owen Rutter, Fellow of the Royal Geographical Society and of the Royal Anthropological Institute. Photographs. Folding inset map by Stanford's. Constable & Co. 1922. (21s.)

STUDIES IN RELIGION, FOLK-LORE, AND CUSTOM IN BRITISH NORTH BORNEO AND THE MALAY PENINSULA: by Ivor H. N. Evans, M.A. Photograph. Cambridge University Press. 1923. (20s.)

Two solutions are offered for the problem of the future relations between advanced and backward races of mankind, the authoritarian, the solution of the man on the spot, and the libertarian, the solution demanded by the nonconformist conscience. Major Rutter's book is not written to substantiate any particular political or sociological doctrine, but it is specially interesting when viewed from the standpoint of the student of the culture contact between North Bornean natives and Europeans, or, more broadly, men from the Euro-Asiatic mainland. Major Rutter reveals wide and sympathetic knowledge of his region, gained during a residence of a number of years, first as a Government officer and later as a planter. His book is ably written, although it commences with the startling gazetteer information that Borneo is "the second largest island in the world (it is smaller only than New Guinea)."

The Muruts of the hills and the Dusuns of the hills and lowlands are pagan, but the Bajaus, Bruneis, Illanuns, Sulus and others form a coastal fringe of Mohammedans. Although the pagans have the more interesting folk-lore, yet, as in the Malay Peninsula, the Mohammedans often have a mere veneer of Islamism over old superstitions. Dyaks are immigrants, from Sarawak, but the Chinese coolies, servants, farmers, shopkeepers and merchants form the backbone of the non-European population. Dusuns and Muruts may be pagan and dirty, but the natives on the whole are pleasant people, simple until sophisticated by contact with the immigrant, hospitable and generally honest. The chief occupation is agriculture, the chief grain, rice, and the chief domestic animal, the water-buffalo. It is the last which mostly lures the natives from the narrow path of honesty. Major Rutter sets down the economic and political benefits brought by the British North Borneo Company. He shows how the policy of the Company has been an enlightened one, largely inspired, as with other governing bodies in equatorial regions under white dominion, by authoritarian principles. The author upholds the whipping of the natives for punishable offences just as an English schoolmaster may defend the caning of schoolboys, and he is characteristic in preferring to instruct them in their own arts and crafts, e.g., agriculture, weaving, fishing, rather than to "advance" them "into a race of clerks and potential agitators." Slavery and arbitrary taxation have gone, so has head-hunting, but rice-wine and coconut toddy are evils yet. Regarding the future there is hope, for the natives, though not easily interested, are intelligent enough to become convinced when actual results are brought to their notice.

Mr. Evans is a member of the staff of the Federated Malay States Museums, and some of his papers have already appeared in The Journal of the Royal Anthropological Institute, Man, and The Journal of the Federated Malay States Museums. Mr. Evans wishes his papers to be regarded as store-houses of information supplementary to the works of Ling Roth, Skeat and Blagden. He is so fully aware of the pioneering nature of his work that he is careful to quote evidence with greatest precision in support of his conclusions. The Dusuns seem to be the original

inhabitants of North Borneo, but they have been driven inland by Bajaus and Illanuns, Proto-Malayan invaders. In this land of mountain and jungle, customs, beliefs, folk-tales, even language differ from valley to valley. Mr. Evans deals only with the Tuaran and Tempassuk Districts, and avoids the snares of hasty generalisation. The pagan Dusuns certainly believe in a supreme deity, who has a wife, but their religion is largely animistic. The spirit of smallpox must be driven away by magic; the village must be purged annually of evil spirits by a mixture of magic and bribery, and what misfortune could the rice-souls bring if not propitiated! Most interesting is the cult of sacred jars or *gusi* of the Dusuns of Tuaran and Papar, to which both authors pay attention. The jars bear signs of Chinese manufacture, but to the Dusuns they are of mythical origin and are tenanted by indwelling spirits. Priestesses direct the rites around these jars, offering up strange incantations understood by themselves alone. Delightful folk-tales give valuable insight into the psychology of the natives and the character of their environment. The simple morals to the tales, the attempts at solving the riddle of the universe, and the pictures of the triumph of the weak over the strong impel comparative study, and suggest something fundamental, a common possession of all mankind. In the North Bornean markets, Mr. Evans found the Dusuns not so simple as they look.

In the Malay Peninsula are Negritos, Sakai and Jakun who are pagan, and the Malays who profess Mohammedanism. It is not particularly difficult to get into touch with the inner life of the pagans, once the language difficulty is overcome, but the great heat prevents a European from living with them for long periods. Hence little is really known of their beliefs and customs. Mr. Evans puts forward a tentative scheme of similarities and differences of the known beliefs of the three pagan groups. He doubts if Skeat's masterly analysis will stand in its entirety in the light of his new evidence, and he has found very little evidence in confirmation of much of Vaughan-Stevens' work, especially that on Negrito comb-patterns and Sakai totemism. Negrito, Sakai and Jakun accounts of the abode of souls of the dead and their journey to it are included in the folk-tales. Disconnected notes on Malay customs and beliefs are followed by Malay folk-tales, examples of Malay backslang, a description of the ceremony of setting up the posts of a Malay house, and *bela kampong*, an annual ceremony performed in Endau to invoke the aid of local spirits in averting misfortune and disease.

The tabus of camphor collectors of North Borneo are dealt with by Major Rutter, of Johore and South Pahang by Mr. Evans. Mr. Evans notes that collectors must address the Spirit of Camphor, who is female, in the camphor language, and must offer her sacrifices if quests are to be successful. Major Rutter observes that one tribe of Dusuns sometimes uses camphor for embalming the dead. Can this be additional support for the doctrine of the world-wide culture-spread from Egypt, analogous to the modern spread of European culture, of the story of which Major Rutter's book forms a part?

J. L. Oliver.

EVERYDAY LIFE ON AN OLD HIGHLAND FARM, 1769–1782: by I. F. Grant. (Longmans, Green & Co.)

It is surely significant of a new spirit and a new outlook that this book is entitled Everyday Life on an Old Highland Farm. Something more than a suspicion has been growing up that the ordinary treatises on Economics too nearly resemble the dried herbaria of the Botanists, surprising collections of "facts," but as far removed from the vital realities as the dead, pressed and dried plant is from the glowing flame of life that once it was.

HERE is an attempt to see this old life and to see it whole, not as a mere exercise in antiquarianism, but as a serious study of eighteenth century Agriculture in the Highlands, with the clear perception that " the connection between the conditions of the past and the problems of the present must surely be closer in rural social life than in urban districts, and in the records of their economic history must lie a very special interest and value."

IT may be, as Professor Scott suggests in his preface, that to those of other than Highland blood, the whole epic of Highland life must remain a sealed book, and possibly the picture here given will fail to stimulate such readers, being in certain respects totally outside their experience and even contrary to their cherished beliefs.

IT is to be hoped, however, that these will be few in number, for there are in this picture of a bygone time, lessons and a criticism for our day and possibly the hint of a way out of our present troubles.

THE book begins with a chapter on the psychological atmosphere—a study of the people: passes to the conditions of the countryside: and finally to the work of the Farm in all its aspects. We have thus as complete a picture as is possible of this old-time community, its surroundings, its occupations, its people.

LEAVING to the statistical economist the discussion of the quantitative and other details, and making rapid survey of the book, what are its most vivid impressions?

MOST strongly impressed is the seeming paradox continuously present throughout of the pitiful and often miserable material conditions, closely and constantly associated with a cultural level as remarkable, as it must seem incredible to those to whom this Highland Culture is something previously undreamt of.

IN sheer material well-being, rural life now measured by a comparison with that of this 18th century picture, is immeasurably superior, yet by growing consent no aspect of the social problems of the hour gives us so much cause for anxiety as the conditions of life in the countryside. " There can be no doubt," says Miss Grant, " that the greater part of the population of the Highlands were living under conditions that would now be considered incompatible with a civilised existence, and that they were often on the verge of absolute starvation. Yet it is amazing to find how utterly unaffected by such miserable material conditions were the character and mental outlook of the people."

WE have a picture of this closely related communal life, with its music, song and story woven into and knit close with the hills and valleys and the hard and unremunerative labour of their people—" In every cottage there is a musician, in every hamlet a poet." The unremitting daily toil is lightened by the " working songs." (Perhaps, as Miss Grant suggests, we are coming back to something of this old idea through the more prosaic channel of " Scientific Management.") There are the evenings by the peat fire when each one contributed song or story; the reverence for and deep attachment to nature and to the clan history and traditions; the self-respect; good breeding; high standard of honour; courage; carelessness; and hospitality —" in the outward expression of their manners, the politeness of courts without their vices, and in their bosoms the point of honour without its follies." Yet there is the poor soil, hardly won from the rough wastes; the wretched half-starved cattle; the clumsy implements of wood; the meagre crops, often insufficient to support the population; the turf huts; the lack of furniture and even of clothing.

THE "tacksman" or principal tenant, holding the land from the "chief" of his clan, partly sublets to sub-tenants, farming the remainder himself with their assistance. "The connection between the 'tacksman' and his 'inferior tenants' was an extraordinarily close weaving of interests. They were not only both landlord and tenants, and employer and farm labourers. Their animals grazed in common, and they were mutually responsible for the tillage of the runrig fields. They also bought and sold largely from each other. The tacksman also acted as a sort of bank for some of his tenants and as a kind of executor in other cases."

SUCH, very briefly, is the picture.

AN explanation of the origin and existence of the mental outlook would be highly interesting, but cannot be dealt with here. Yet in this mental outlook it would seem lies the secret of the paradox. Clearly, material prosperity alone is not sufficient to ensure a high level of life, nor do superiority of culture and mental outlook ensure a stable social fabric, since this old life has practically vanished. What concerns us is to see that the superiority of this life while it remained depended on the fact that, deficient as it undoubtedly was materially, the threefold elements of Place and Work and People were bound together into and created something more than the unorganised relationships which characterise the life of our time.

THROUGHOUT the book there runs this consciousness of the unity of life and the interdependence of all its phases. How markedly indeed does this contrast with our civilisation of unrelated specialisms.

FORTUNATELY signs are not altogether wanting that we are coming back to an appreciation of the need for a regional and comprehensive reorganisation, which may yet not only restore to us the best elements of the past but perhaps on a higher level. And such a book as this gives both encouragement and stimulus for the task.

JOHN ROSS.

THE STUDY OF THE CITY: Park and Burgess—*The City*: Univ. of Chicago Press: 1925.

HERE is a book which vividly illustrates the emergence of sociological studies from their long predominant abstractness, and which boldly tackles the difficulty of understanding cities in the concrete, and as at once the main product and problem of social life. The need of actual observation and description of cities as they stand is thus realised, and this ecologically, as a system of life-adaptations, before considering them in their administrative and political aspects. Cities are here seen as social group-systems, in varied growth and development, and towards better and worse. The psychological attitude, so happily current in America, is also here manifest: in fact, the very first essay is on "Human behaviour in Urban Environment," and it is enriched by lists of pointed questions, suggestive each and all. The same attitude is manifest in other chapters: witness those dealing with "Juvenile Delinquency in relation to Community Organisation"; on "Community Organisation and the Romantic Temper"; on "Magic, Mentality, and City Life," and on "The Mind of the Hobo." The consideration of the Neighbourhood is not missing, but taken up necessary for due analytic treatment; and social work in it is shown to need an increasingly scientific basis. Finally comes an extensive bibliography of city literature under various groupings; so that this chapter alone would make the book necessary to the serious student.

YET with all this appreciation (and more might be given), a main use of this bright and suggestive book is to bring sharply before us how far we still are from the adequately scientific treatment of urban communities ; although it is also encouraging to feel how much material we now have towards their needed orderly and systematic treatment, evolutionary and comprehensive, interpretative and applied.

So with all these many materials and endeavours towards the study of cities, can we not now come to some clearer agreement as to the making of the needed orderly sub-science of Civics, which has to be so great, in fact so largely predominant, a department of sociology generally ? Sociological Societies and their Reviews, municipal and civic journals also, have now many papers, and correspondingly many workers : so is it not time to be thinking of Civic Symposia for the Journals, and of International Congresses among the Societies ? And in all these should we not especially bring together our different methods and viewpoints, our respective attempts at interpretation, with due co-ordination, as far as may be, of the main work of others ? Might not this very REVIEW, and the Sociological Society of which it is the organ, discuss with their respective congeners, alike American and Continental, the ways and means of such a Civic Congress, and even within the next year or two ? And thus of such division of labour as might be possible before arranging such a meeting—and it is to be hoped still more practicable after it ? Or why should not our authors thus follow up their own book ?

P. G.

SOCIOLOGICAL METHOD : Paul Bureau : *Introduction à la Méthode Sociologique :* Paris : Librairie Bloud & Gay.

SOCIOLOGISTS differ ; indeed so much that our author's opening chapter starts with a criticism of " the intellectual chaos " amid which we are living : yet as he proceeds, he gives not a few sound and valuable contributions towards that co-operation of ideas which is needed to bring our many groups and schools towards mutual understanding. For while in France especially, yet too much everywhere, the tradition of Comte and that of Le Play have kept apart, here, by too rare exception, is a lifelong worker in the latter school with a fair and even sympathetic understanding of the former also ; and thus, while of course by no means fully agreeing with the Positivists, and the resultant school of Durkheim, yet warmly and loyally appreciating and utilising their main constructive contributions. This synthetic viewpoint is maintained in his discussion of the prevalent economic interpretation of social life and history, which though with keen criticism of Marxism, Liberalism, and the school of Durkheim, does not spare his own traditional school, that of Le Play as re-edited by Tourville and Demolins. Accepting Durkheim's doctrine, that every form of social life is essentially a matter of its " representations," he starts his constructive treatment with " La Trinité Organisatrice " ; so that the familiar formula of Le Play—Place, Work, Folk—now for him reads—Place, Work, Representation of Life. Thence he proceeds to his method of observation, his technique of social analysis. He starts with the four essential needs of every society—as of necessary production, recruitment of the race, organisation of public powers, and of the moral order : and he follows up this main outline by insistence on the need of clear distinction between society as parasitic or harmonious ; and further on the fundamental importance of private life for social issues. Then comes his monographic method ; in its concrete particulars, substantially

based on that of Tourville and Demolins, but with interesting differences; so that the study of his clearly presented analytic summaries will be found of value to the student of any and every school. For though even this proposed treatment cannot yet be admitted as systematic enough, it offers a very comprehensive and suggestive survey; and it is followed by interesting criticisms of the statistical and historical methods, albeit as needed accessories to our direct observations, and helpful towards their clearness and their interpretation accordingly.

FINALLY comes the great question of the applications of sociology to conduct: again sympathetic as well as critical, and with fair-minded endeavour towards using our social knowledge for all the applications it can yield—although naturally from the writer's standpoint, as a professor of the Catholic University in Paris, strongly insisting on the rôle of religion. Yet with this he does not hesitate to criticise the present sociological limitations of the religious world; and he concludes with a two-fold appeal to the "Enfants de l'Esprit Nouveau" and the "Enfants de la Tradition"—to both of whom his book is addressed—a vigorous plea for their "union sacrée" in our opening period of after-war thought as fully as was the case in the recent war.

ALIKE in spirit and in treatment, Professor Bureau's book thus well deserves thoughtful consideration by members of all schools of sociology, and will be found to reward this.

P. G.

"THE OPIUM EVIL IN INDIA, BRITAIN'S RESPONSIBILITY": by C. F. Andrews, M.A. (Student Christian Movement, 1, 1926).

THIS little book is an accurate and temperate statement of the case against acquiescing in the attitude taken up by the representatives of the Indian Government before the League of Nations on the opium question, and for more drastic handling of the abuse of opium by that government. Nobody probably rejoices more than the author that immediately after its appearance it has become in one respect out-of-date. The three chief points in Mr. Andrews' indictment are; (1) that although the Government of India has in recent years limited the export of opium to the quantities declared by the governments of importing States to be required for legitimate purposes, the quantities so imported by those States have, as a matter of fact, been far in excess of medical requirements; (2) that in certain parts of India, notably Assam, the abuse of opium exists in forms similar to those in China; and (3) that in industrial districts a new form of opium abuse, the drugging of babies with opium pills to keep them quiet while the mothers are at work, has become terribly prevalent.

ON the first of these contentions Mr. Andrews has a sympathiser, if not a convert, in the Viceroy himself, and Lord Reading's pronouncement in February, that henceforward the export of opium shall be limited to amounts required for medical practice by qualified men, should fully wipe out an ancient stain on Indian administration. Mr. Andrews also was able to record very satisfactory progress in Assam. In 1875-6 the consumption was 1,875 maunds, in 1920-1 it was, with a population increased by 60 per cent., 1,614 maunds. That the reduction was no greater was largely due to the mistaken opinion, prevalent among planters and officials as well as natives,

that opium was a necessary prophylactic against ague and malaria. By 1921 that opinion was exploded, and under the inspiration of men like Mr. Gandhi and Mr. Andrews a vigorous anti-opium agitation was started in Assam. In 1922-3 the consumption dropped to 961 maunds, and in 1923-4 to 880 maunds. Towards the end of 1925 it was announced that the Government of Assam had adopted the policy of registering consumers, and of forbidding the sale of opium to any others than registered consumers. If illicit trade can be controlled, this policy is indicated by experience in various places to be the most effective for a speedy termination of the evil.

THERE still remain, however, many districts of India where the consumption of opium is far in excess of legitimate medical requirements, and is in consequence a potent agent for physical and moral deterioration, notably Burma (though the Burmese are not allowed to buy it), Calcutta, Bombay and the Godavari district. Outside Burma and Assam Mr. Andrews' map shows 16 black spots where the consumption is more than ten times the estimated allowance for medical requirements. This represents a serious problem needing to be dealt with by educational as well as administrative effort.

G. S.

VERSUCHE ZU EINER SOZIOLOGIE DES WISSENS: Herausgegeben in Auftrage des Forschungs-instituts für sozialwissenschaften in Köln von Max Scheler. Münschen und Leipzig. (Verlag von Duncker u. Humblot. 1924.)

THE essays contained in this volume, all concerned with the social conditions of knowledge, miscellaneous studies very loosely interconnected and covering an extremely wide field, fall roughly into two classes, essays more or less confined to the description of a particular society or group of societies, and essays which attempt the more ambitious task of discovering the social factors which have conditioned the progress and character of human knowledge. To the former class belong Professor Lore Spindler's excellent account of the Hindu caste system, Professor Stein's panegyric of the Anthroposophical movement and its founder Rudolf Steiner, Professor Landsberg's brilliant sketch of the Aristotelian school, Professor Dr. Vollrath's picture of several modern German groups, of a mingled metaphysical and practical character, and Professor Honigsheim's essays on the sociological conditions of Nominalism, Mysticism, and the Jugend bewegung. Professor Pleasner's discussion of the modern German university requires some previous knowledge of the subject. To the Englishman altogether unacquainted with German university life it is scarcely intelligible. Though this group of contributions ranges so widely over time and space, its predominant interest is, naturally enough, the present condition and future prospects of intellectual and spiritual life in Germany. It therefore opens to the foreigner many interesting perspectives into a region in many ways remote, and should awaken the desire for a fuller knowledge of the German mind. Despite his avowed intention to be merely descriptive in his treatment, Herr Mittenzwey's account of the psycho-analytic groups is a searching criticism of the movement, and should give pause to any who are inclined to treat the theories of Freud and his fellows as a body of scientific truths, established no less securely than the data of the natural sciences.

But the most important part of the book consists of the philosophic essays —which seek to discover the sociological soil in which human knowledge is rooted. Here the two writers of importance are Herr Honigsheim and Professor Max Scheler, whose introductory essay, Probleme einer Soziologie des Wissens covers over a quarter of the entire volume. Herr Honigsheim, whose series of essays pass from the purely descriptive essay to the statement and valuation of principles and terminate in a final essay of prophetic character, moves along lines closely parallel to those followed by Professor Scheler. As his treatment is more concrete than Professor Scheler's he is easier to understand, and the reader would be well advised to read his essays, especially his essay on the Sociology of Scholasticism and the concluding essay, before embarking on Professor Scheler's more theoretical dissertation. I would call especial attention to Herr Honigsheim's masterly sketch of the three stages of European society—with their corresponding systems of thought--the culture stages respectively dominated by the church, the state and the economic organisation. There is never any doubt as to the position adopted by Herr Honigsheim ; Professor Scheler's statement is fragmentary and often obscure. And Herr Honigsheim can be understood by those who have never before read a line of his writing, whereas Professor Scheler's essay requires interpretation by his previous work.

So wide is the range covered by these two writers and so various the questions opened up, that no review could hope even to summarise them.

Inevitably the reader's attitude towards Profeasor Scheler's and Professor Honigsheim's position must be determined by religious belief. The ideal alike of Professor Scheler and Herr Honigsheim is a synthesis of the scientific results of western rationalism with a religiously coloured metaphysic, of a more mystical character however for Herr Honigsheim than for Professor Scheler. Both display marked hostility to revealed religion and to the churches as its sociological embodiment. But even those who, like the reviewer, and it may be added Professor Scheler himself in his earlier work, believe that a complete synthesis of life and knowledge must include both these religious elements, will find in these essays a wealth of valuable truths, too often ignored. Professor Scheler exposes the mischievous futility of any attempt to disparage in the interest of metaphysics or religion the scientific methods and results of the liberal-rational movement. The social origin of the latter in the desire of the modern European, and in particular the desire of the mercantile bourgeoisie, whose ethos has dominated western civilisation since the Renaissance, for unlimited power over nature, and for acquisition for its own sake, combined with an individualism set free for good and evil from the earlier organic community of blood and fixed tradition, is here brilliantly sketched both by himself and by Herr Honigsheim. But he refutes with equal cogency the positivist belief, still widely popular, that religion or metaphysics or both, which are the product of perceptions and needs *different in kind* from those which gave birth to science, have been superseded by science, or that science can realise the entire possibilities of human knowledge and happiness. For he shews that science is essentially conditioned by an abstraction, made under the impulse of the will to power, of the quantitative and, therefore calculable, aspect of the universe. Professor Scheler still maintains religious intuition as a primary source of knowledge side by side with the metaphysical contemplation of ideal reality. But religion is apparently fading into the background of his vision, and in one place he appears to assert that metaphysics and positive science together exhaust the " entire possibilities of human knowledge " (p. 112). His present

position is apparently transitional between the acceptance of *religious* experience as a distinctive, indeed as the highest source of knowledge, and its rejection in favour of a metaphysics based on quasi-religious self-discipline, a metaphysic of the type exemplified by Indian Vedanta. If he should adopt the latter position, he will have to answer his former self—no easy task. For the reviewer at least, Professor Scheler's contribution appears confused and damaged by an uncertainty as to the relationship between religious and metaphysical knowledge and their repective provinces. Even so late as the second edition of his WESEN UND FORMEN DER SYMPATHIE, Professor Scheler adopts a critical attitude towards Indian thought. It is, he maintains, negative in its attitude towards the universe, and based on an experience of identity between the lower vital sphere of the individual and the vital soul or universal-life, as opposed to the higher love and knowledge of the spirit (Geist). Here, however, he appears to regard Indian philosophy and the practical soul-discipline on which it rests as a way of attaining the fullest knowledge of metaphysical truth, evidently, therefore, as a form of distinctively spiritual or intellectual knowledge, and as co-ordinate in value with the achievement of western science. Indeed a synthesis between the two is apparently his ideal for the future of mankind. But

1. If Indian philosophy is founded on vital feeling how can it possess this intellectual-spiritual value?

2. What can be the synthesis between world-acceptance and world-denial? And such a modification of the latter as would give its due place to the former is precisely the position distinctive of Christianity, as opposed to the main trend of Indian speculation. Further, whereas the result of western science is one harmonious body of truth, Indian thought has issued in several mutually exclusive philosophies, e.g., pantheist-acosmism (Vedanta), atheistic-acosmism (Jainism, early Buddhism), and theism (Ramanuja-Bhakti). Which of these mutually exclusive forms is to be integrated into Professor Scheler's synthesis?

PROFESSOR SCHELER'S introductory analysis of the respective parts played by the "ideal" and the "real" factors in the formation of human culture, though excellent in its recognition of both as mutually interacting causes, delimits their respective spheres in an unreal, because falsely abstract, fashion. The ideal factors, we are told, determine the nature, the "so-sein," of the culture-content, the real factors, race, the state, economic forces, its existence, "da-sein." I do not believe this line of demarcation can be carried through. Let us take the example chosen by Pr. Scheler, the Lutheran reformation. A "real" political factor, the local principality and its desire for a state church altered the Lutheran doctrine (an idea) from its earlier form, held by Luther in the first stage of his evolution, namely, belief in free charismatic groups, to its later form, the acceptance of juridically constituted churches. And on the other hand Luther's rejection of purgatory and prayer for the dead (an idea) directly occasioned the abolition of foundations for Masses and the confiscation of their funds, a "real" effect. Other instances of valuable suggestions thrown out imperfectly considered, of obscurities and inconsistencies might be given. Even more than in his earlier writings Professor Scheler proves himself here rather the discoverer of new intellectual countries, left immediately for a further voyage, than their settler or even their cartographer. But we must not grumble: without previous discovery there can be no colonisation.

THE NEUROSES OF THE NATIONS: The Neuroses of Germany and France before the War: by C. E. Playne. Pp. 468. George Allen & Unwin. 1925. (16s. net.)

Miss Playne leaves us in no doubt as to the serious and definite object of her book. "This study," she writes, "seeks to investigate the neuroses of the nations before the War. The contention is that not only were the national group-minds unhinged by the immensity of the excitement after war had broken out, but that the different national groups suffered from mass-neuroses for some decades before group-dementia held them in its grip as the War developed. And further, that the Great War, its universal upheaval and drawn-out strife, were not only induced but continued, as a consequence of the moral and mental derangement of the mass-mind among the different nations." (p. 21.)

It is interesting to find the problem of the origin of the World War treated from the standpoint of mass-neuroses, for an opportunity is thus afforded to the sociologist of closely examining a certain possible cause of wars. However, in the opinion of the reviewer, the masses were patients rather than actors in the events preceding the War, and their excitement and fatalism alike were largely due to this. In most cases, as in the days just prior to the outbreak of hostilities, they were entirely ignorant of the existence of crises until these had reached an acute stage. A general public highly educated intellectually and morally would have more coolly examined each crisis as it arose, but then it would have recognised the futility of leaving international affairs to the tender mercies of *ad hoc* negotiations, and would have insisted on the establishment of an efficiently organised League of Nations.

That shortly before the War "speed, hurry, hustle became the essence of life" (p. 38) and led to a universal breakdown is a reasonable hypothesis, but unfortunately the volume before us does not substantiate it. Already in the fifties of the last century Matthew Arnold wrote of

> ". . . . this strange disease of modern life,
> With its sick hurry, its divided aims,
> Its heads o'ertax'd, its palsied hearts . . . . ,"

and similar sentiments will be found expressed in Shelley's "Skylark," Keats' "Nightingale," and Wordsworth's Sonnet to Milton, a century ago. Miss Playne's pages, it is true, abound in the technical phraseology of the psychotherapist's consulting room. It is, however, difficult to rid oneself of the impression that this language is not justified by her numerous quotations, which mostly indicate reasonable concern in dramatic situations.

The actual cause for anxiety rather has to be faced—the absence of arrangements for pacifically settling disputes, leading naturally to suspicion, distrust, competition in armaments, and eventually to war. Miss Playne claims that reason would have deprecated these; yet it is difficult not to disagree with her here. In fact, she does not see that international relations, like intra-national relations, must be organised, and that so long as this is not the case, chaos will be inevitable in the international field. So far as the race in armaments is concerned, "the remedy that sanity would prescribe," according to her, is "an agreed halt and gradual reduction" (p. 395)—a hopeless over-simplification of an intricate problem. It is the more doubtful that the peoples were blindly rushing to war seeing that "in no nation did the mass of the people consciously desire war. On the contrary, they were desperately afraid of it" (p. 443)—a wholesome sentiment. And if there was no universal revolt when war was declared, but, on the contrary, enthusiasm, or dread acquiescence, reason would surely suggest that the nation whose citizens hesitated at such a moment would be at a fatal disadvantage.

We have dealt with the general viewpoint of this book; but there is another side. Miss Playne writes arrestingly, marshals before us a vast array of absorbingly interesting facts, and brings to the focus the somewhat neglected emotional aspect in international politics. Her work is therefore well worth reading, and even closely examining.

G. S.

THE SCIENTIFIC STUDY OF HUMAN SOCIETY: by Professor Giddings (Univ. of North Carolina Press, U.S.A.: Humphrey Milford of Columbia University and London. $2.00).

THE PSYCHOLOGY OF HUMAN SOCIETY: by Professor Elwood. (D. Appleton & Co., New York and London, 1925. $3.00).

American Universities continue to pour out text-books of Sociology, and no one can cavil at their industry for there is a large student population waiting to be fed. At the same time one has to regret that so much energy goes into organising courses for students, by first-class men like Giddings and Elwood at the expense, one fears, of more

original work. Here, for example, is what Professor Giddings says in the preface to his Scientific Study. "Use of the book as a text should be preceded by a short introductory course, concrete and elementary, but I hope that it will meet the need for a rounding out and clinching work. . . . . At present it is the only work of its kind." Elwood seems to be still more the slave of the student body; he explains that he cuts up his theory into sixteen chapters "corresponding to the usual number of weeks in a semester."

Professor Giddings is an out-and-out "scientific" man. He throws scorn—with much justification—upon amateurs of the philanthropic type who boost their "results" without offering evidence that they have achieved anything. He shows how the statistical and mathematical methods of experimental psychology and genetics can be applied to research into group behaviour: his exposition would have been greatly strengthened if he had illustrated his methods by reference to results obtained in his own laboratory: his reply no doubt would be that he is writing for students across the water to whom the work of the Columbia Department of Sociology is familiar.

One of the interesting features of Elwood's text-book is his appropriation of the *Gestatt's psychologie*, with the latest cliché "patterns." Like Giddings he takes his stand with the scientific coterie, superseding his earlier works by this "restatement from a more objective and scientific point of view," this anxiety to be accepted as exponents of science seems somewhat overdone. It can only mean that in their search for truth these researchers are working on the basis of observed facts rather than of deductive theory:—well and good, but when they have said so much, they also have to admit that there are many facts of human behaviour that cannot be analysed in their laboratories. Both books are worth studying as an indication of the trend that sociology is taking in academic circles. Now that these two professors have delivered themselves of a text-book we hope they will turn to the real task of the scientific work, and publish, at least in summary form, some records of what the sociologist is doing in the solution of actual social problems.

J. T. F.

FAMILY WELFARE WORK IN A METROPOLITAN COMMUNITY: Selected Case Records. By Sophonisba P. Breckinridge. (University of Chicago Press. $4.50, postage extra).

This volume of over 900 pages contains an introduction and a series of case-papers, printed in detail as they were accumulated by the family welfare agencies of Chicago in the ordinary course of their activities, save only for certain necessary changes of name. The reader comes to feel a very real admiration for the patient and enthusiastic social work done by these societies in their efforts to meet the difficulties of the numerous poor families who fail to adjust themselves to the working of the industrial system, difficulties too, which are in some ways greater in America than in England through the varieties of race, language, and tradition which live in close proximity and association. It may be doubted, however, whether the method of this book is the best form in which to present case-papers to students. We hazard the suggestion that brief summaries of the history of each case, bringing out the special difficulties it opposed to the committee and the means adopted, with the measure of success or failure following, would be more easily grasped by the reader, and would save the printing of a mass of detail as to visits, letters, telephone messages, &c., which tends to obscure the salient features of the stories.

B. L. H.

WAGES AND THE FAMILY: by Paul H. Douglas. (University of Chicago Press. 280 pp. 1925. $3.00, postage extra).

This book offers a careful, and as it seems to us, a thorough exposition of the question whether wages should not be partly paid in the form of allowances for the dependent members of the wage-earner's family, such payments being drawn from an "equalisation fund" to which employers would contribute, in order to avoid any risk of penalising the employment of fathers of families. Professor Douglas takes a line similar to that with which Miss Rathbone has familiarised English readers, and which was also advocated by Mrs. Sidney Webb in the Minority Report of the War Cabinet Committee. He has also collected a large amount of information on the working of experiments already made in several foreign countries and in some British Colonies. He claims that the adoption of the system he describes would "abolish poverty" and remove most of the difficulties created between the sexes by woman's entrance into industry. Even if the reader cannot entirely accept these assumptions, he will find the book a valuable aid towards the understanding of a complex and difficult question.

B. L. H.

LEPLAY HOUSE.

Old Issues of the Sociological Review.

For some time past there has been a shortage of back numbers of the Sociological Review. There is a constant demand for complete sets of the Review from its commencement or for a certain year or period of years, and also for single back numbers. These requests unfortunately cannot always be met. It would be much appreciated if readers who chance to have spare copies of back numbers or who do not keep their sets for binding, would be willing to let us have them so that we may supply these orders. The issues of which we are in special need are:—

Vol.	I.	1908. All four numbers.
Vol.	II.	1909. All four numbers.
Vol.	III.	1910. October.
Vol.	IV.	1911. October.
Vol.	V.	1912. April and October.
Vol.	VIII.	1915. April.
Vol.	XII.	1920. Spring and Autumn.
Vol.	XIII.	1921. January.

Letters should be addressed to the Manager, Leplay House Press, 65 Belgrave Road, S.W. 1.

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